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CEREBRAL PALSY EQUIPMENT

The NATIONAL SOCIETY
for
CRIPPLED CHILDREN *and Adults, Inc.*

★ The Easter Seal Agency

And ZETA TAU ALPHA

CEREBRAL PALSY EQUIPMENT

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THE NATIONAL SOCIETY FOR CRIPPLED CHILDREN
AND ADULTS, INC.

A Manual of CEREBRAL PALSY EQUIPMENT

Published by

THE NATIONAL SOCIETY FOR CRIPPLED CHILDREN AND ADULTS, INC.

The Easter Seal Agency

11 South La Salle Street

Chicago 3, Illinois

Sponsored by

ZETA TAU ALPHA

National Fraternity for Women

1950

FOREWORD

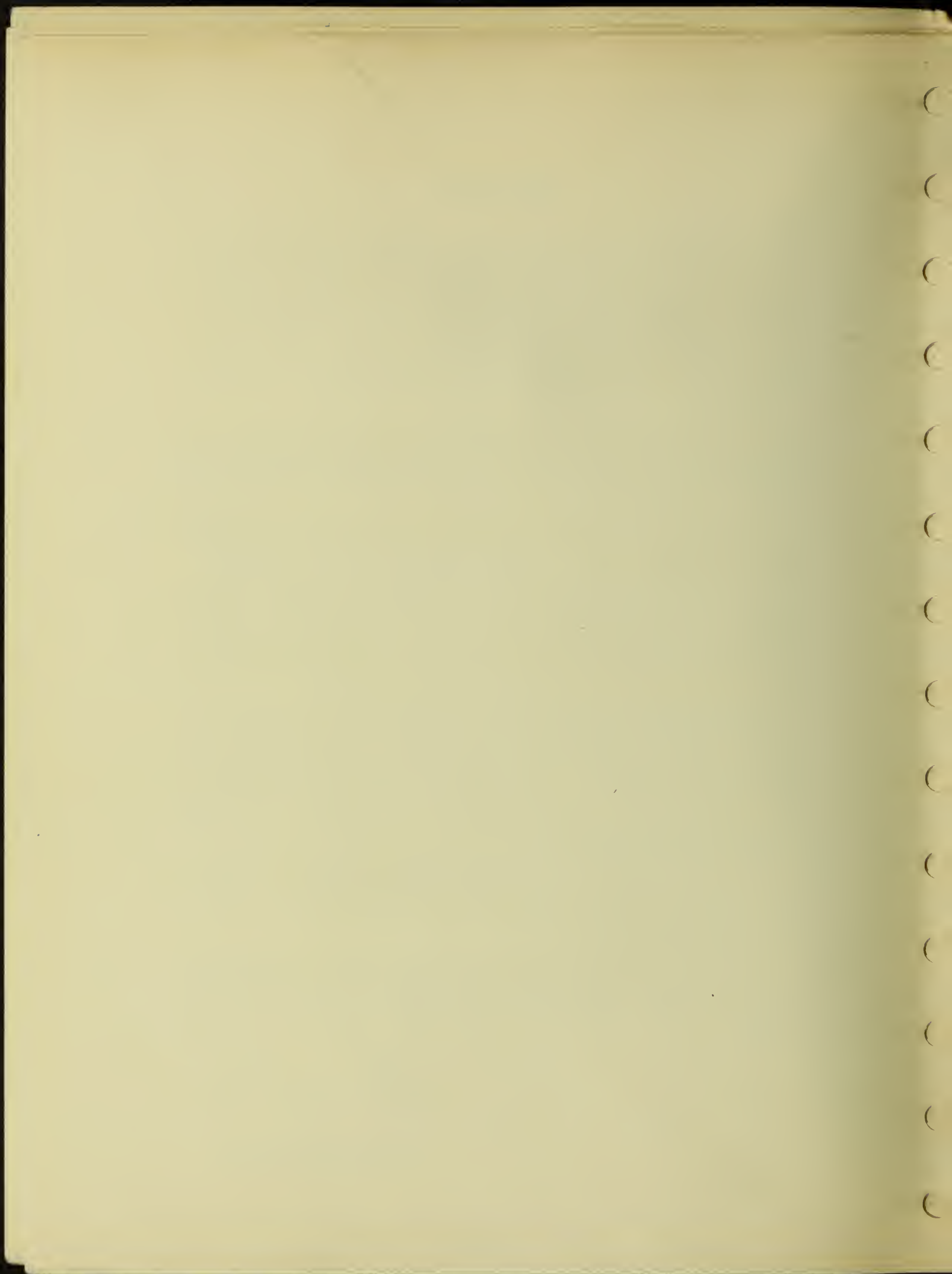
THE *Cerebral Palsy Equipment* manual represents one more fulfillment of the purpose to which Zeta Tau Alpha is dedicated, a purpose embodied in the fraternity's Creed ". . . to think in terms of all mankind and our service in the world."

Zeta Tau Alpha is an organization of college women, both undergraduates and alumnae, with chapters throughout the United States and in Canada. Service work and altruistic projects constitute the major part of alumnae activities. Special acknowledgment is made here to the thousands of members for their generous contributions of time and money for furthering this work.

The National Society for Crippled Children and Adults, Inc. was selected to gather and edit the material for this manual because the nationwide scope of its cerebral palsy program makes it the outstanding agency in this field. Zeta Tau Alpha feels privileged to share with the National Society in the cost of publication of this volume.

To those whose needs this manual will help to meet, Zeta Tau Alpha rededicates its purpose of continuing usefulness.

ZETA TAU ALPHA FRATERNITY



IMPORTANT NOTICE

The National Society for Crippled Children and Adults, Inc. recognizes that cerebral palsy equipment will continue to be improved and new equipment will be designed. We shall appreciate it if all concerned will notify us of any such developments.

It is hoped that additional material can be published from time to time to augment this manual. Should this prove feasible, it is important that every owner of a **Cerebral Palsy Equipment** manual be registered to ensure prompt notification.

Please sign the coupon at the bottom of this page and mail it to National Headquarters.

Nº 491

The National Society for Crippled Children and Adults, Inc.
11 South La Salle Street
Chicago 3, Illinois

Please notify me when supplements are published for the **CEREBRAL PALSY EQUIPMENT** manual.

Name _____

Title _____

Organization _____

Street _____

City _____ Zone _____ State _____

INDEPENDENT NOTICE

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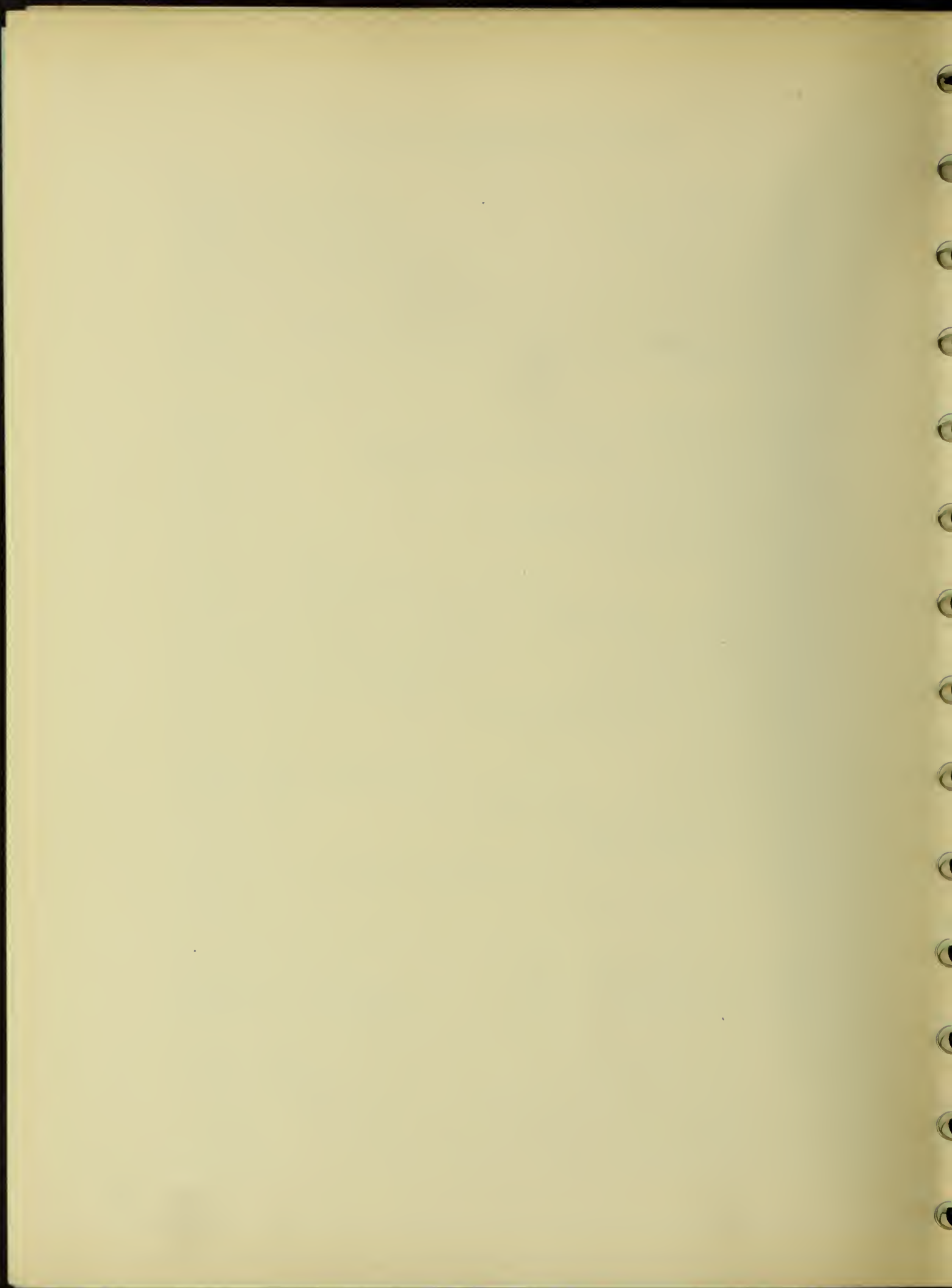
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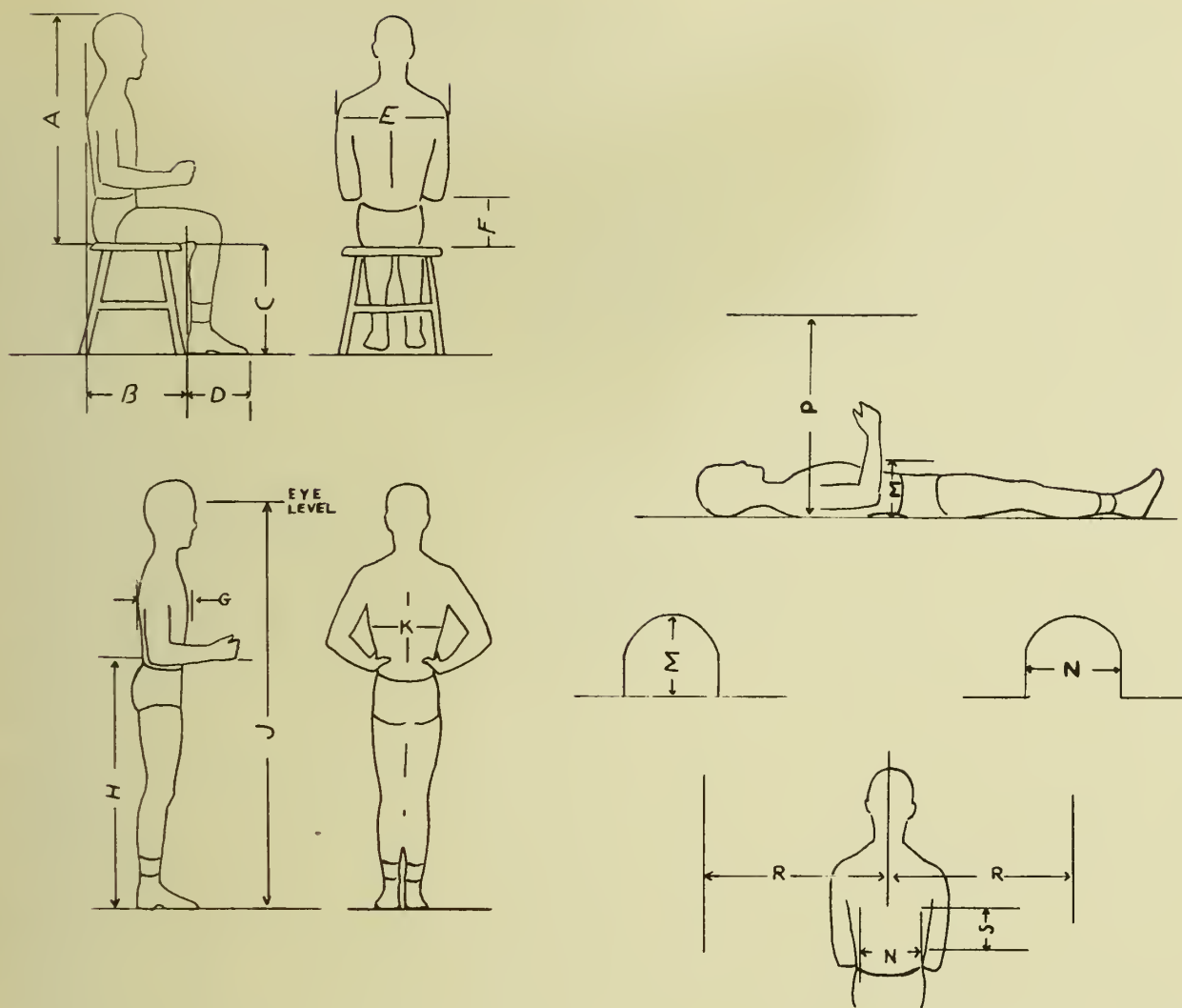
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BODY MEASUREMENTS



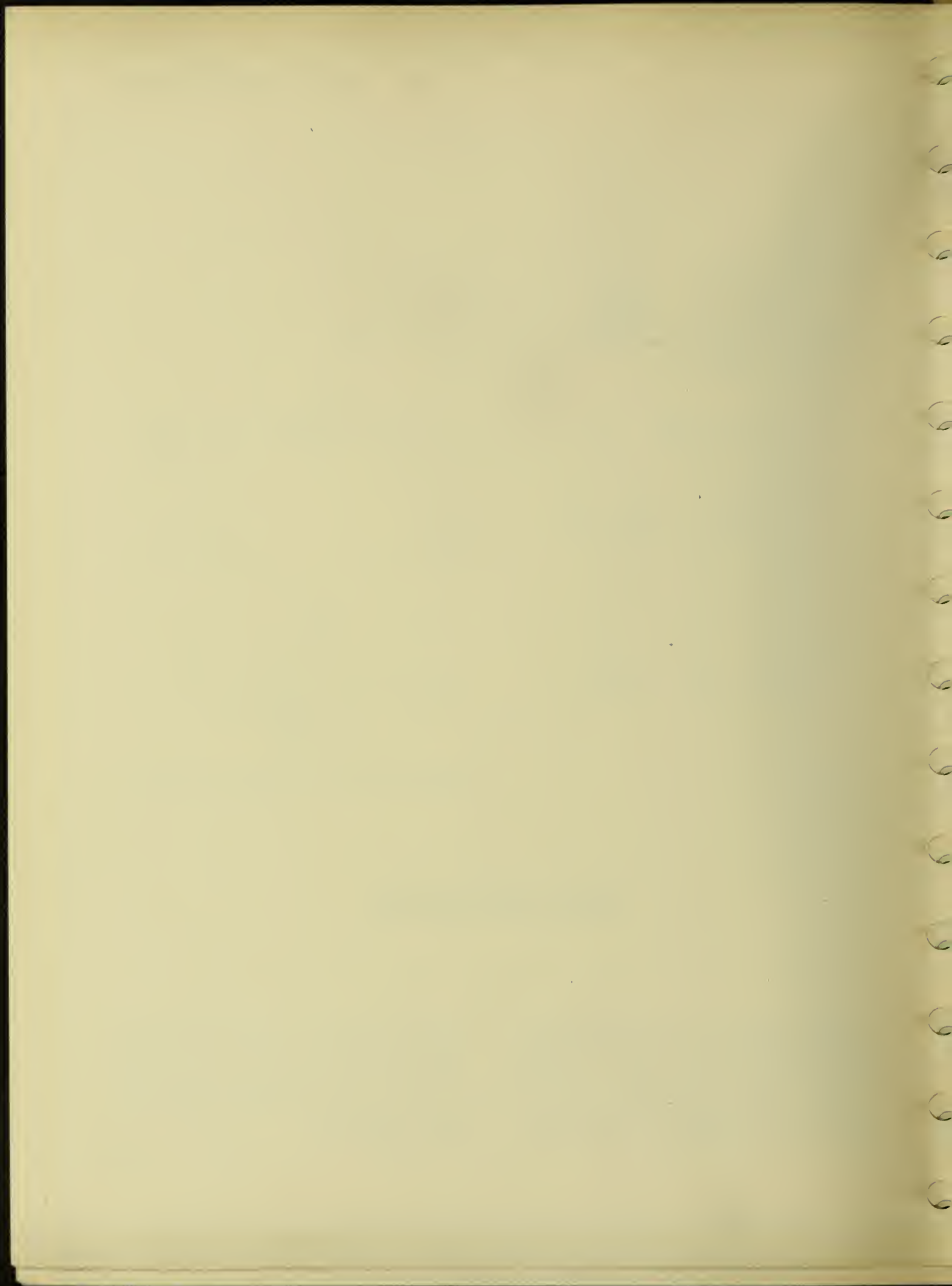
Pennsylvania Society for Crippled Children and Adults, Inc., Harrisburg, Pa.

BODY MEASUREMENTS

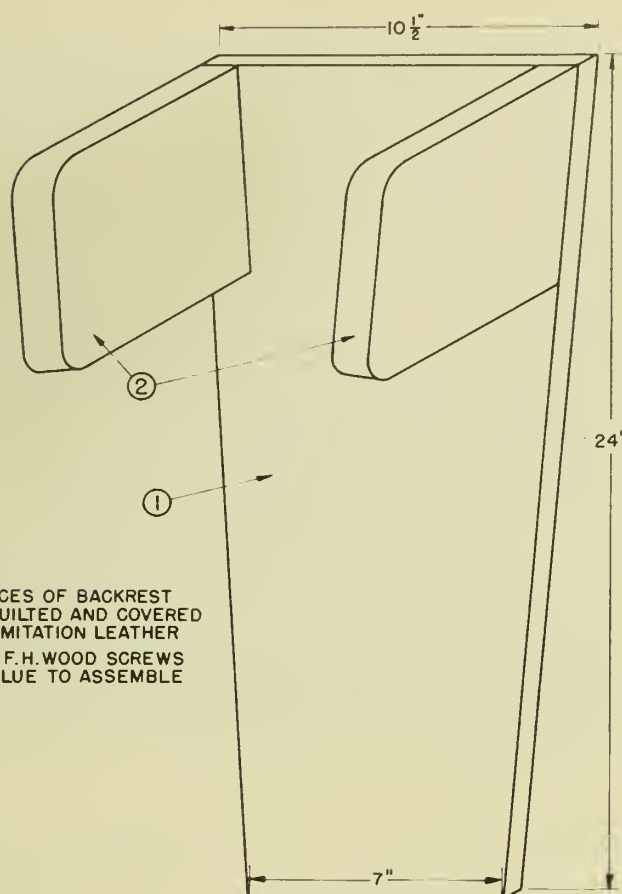
Special equipment for cerebral palsy must be properly fitted in order to meet the individual needs. A chair two inches too wide at the hips or three inches too deep from hip to knee will not give the desired support. Stimulation of the stretch reflex and athetosis may be diminished

when the individual feels comfortable and secure.

These body measurements are to serve as a guide for therapists when designing equipment of their own or when measuring for equipment included in this manual.



BACK REST, REMOVABLE



Improved removable back rest and headrest.

Children's Hospital Society, Los Angeles, Calif.

REMOVABLE BACK REST

Physical Therapy—Occupational Therapy—Special Education*

An improvised, removable back rest and headrest may be attached to a regular wheelchair or ordinary household chair when additional support is indicated at back and head. Clamps are used to secure it. Side pieces hold the head from falling laterally.

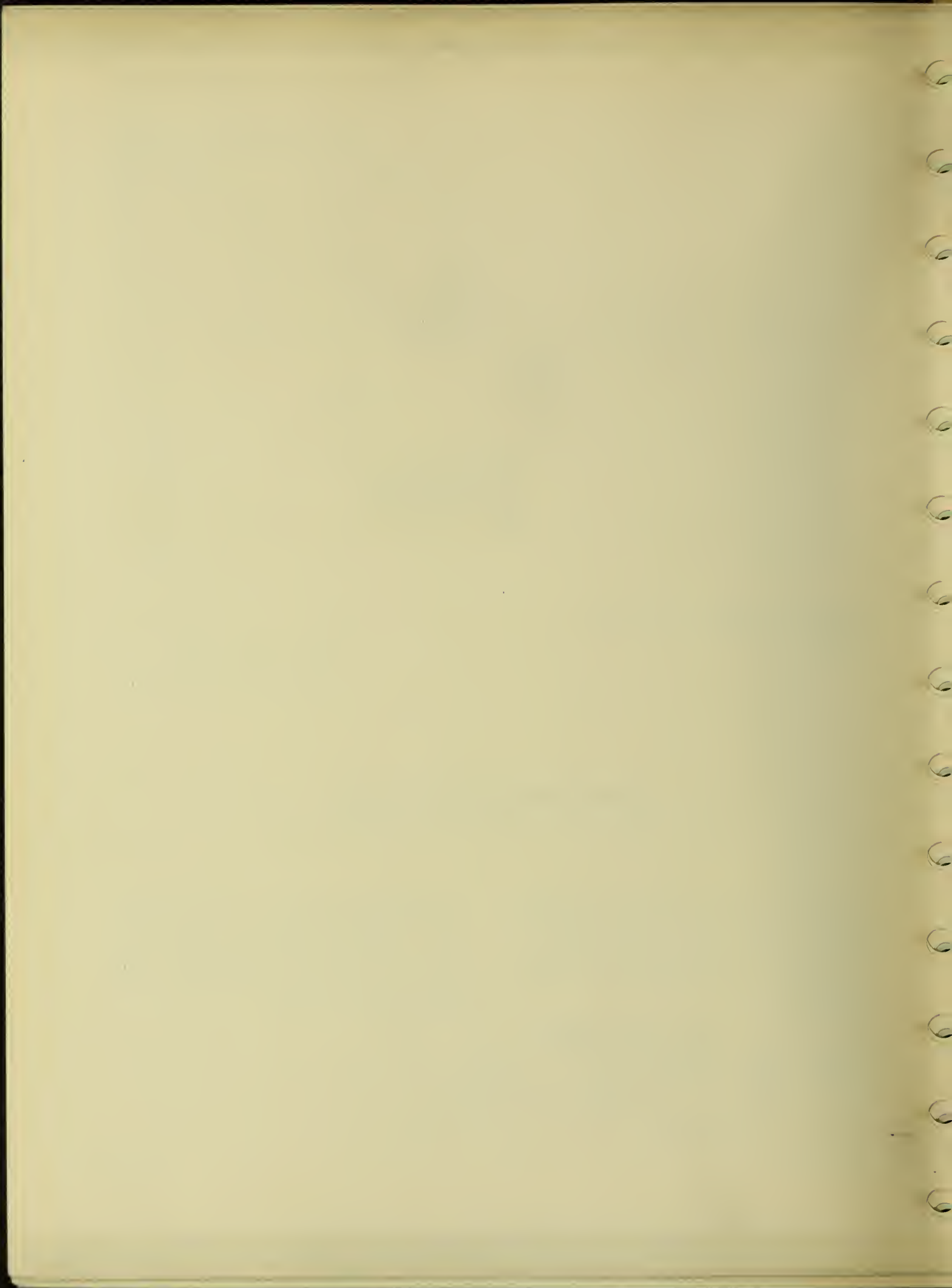
This equipment should be used for selected cases and is not meant to replace a relaxation chair.

To be effective, measurements should correspond to body measurements of patient. Those given on diagram are only suggested ones. Padding is used for comfort.

BILL OF MATERIALS

Part No.	Name of Part	No. Required	Material	Remarks
1	Back	1	Plywood	$\frac{1}{2}$ " x $10\frac{1}{2}$ " x 24"
2	Sides	2	Wood	1" x $6\frac{1}{2}$ " x $6\frac{1}{2}$ "

*Major area listed first.



BARS, BLACKBOARD



Bars make blackboard work possible for some children.

Minneapolis Public Schools, Minneapolis, Minn.

BLACKBOARD BARS

Special Education

Writing at the blackboard may provide an opportunity for more standing experience in the classroom. Vertical and horizontal bars give a child assistance in standing and may make it easier for him to write. Classroom activities may be varied to help either a child who needs to limit the range of motion in his shoulder and arm or a child who needs to widen the area of his arm movements.

For blackboard work other adjustments may be necessary. (Refer to: *Writing Aids*.)

If the child is unable to hold on to the bars, one of his hands may be secured to the bar by a bandage or by a canvas band attached to the wrist and to the vertical or horizontal bar. When the child feels more secure and has developed a strong grasp in holding the chalk or bar, these aids should be discarded.

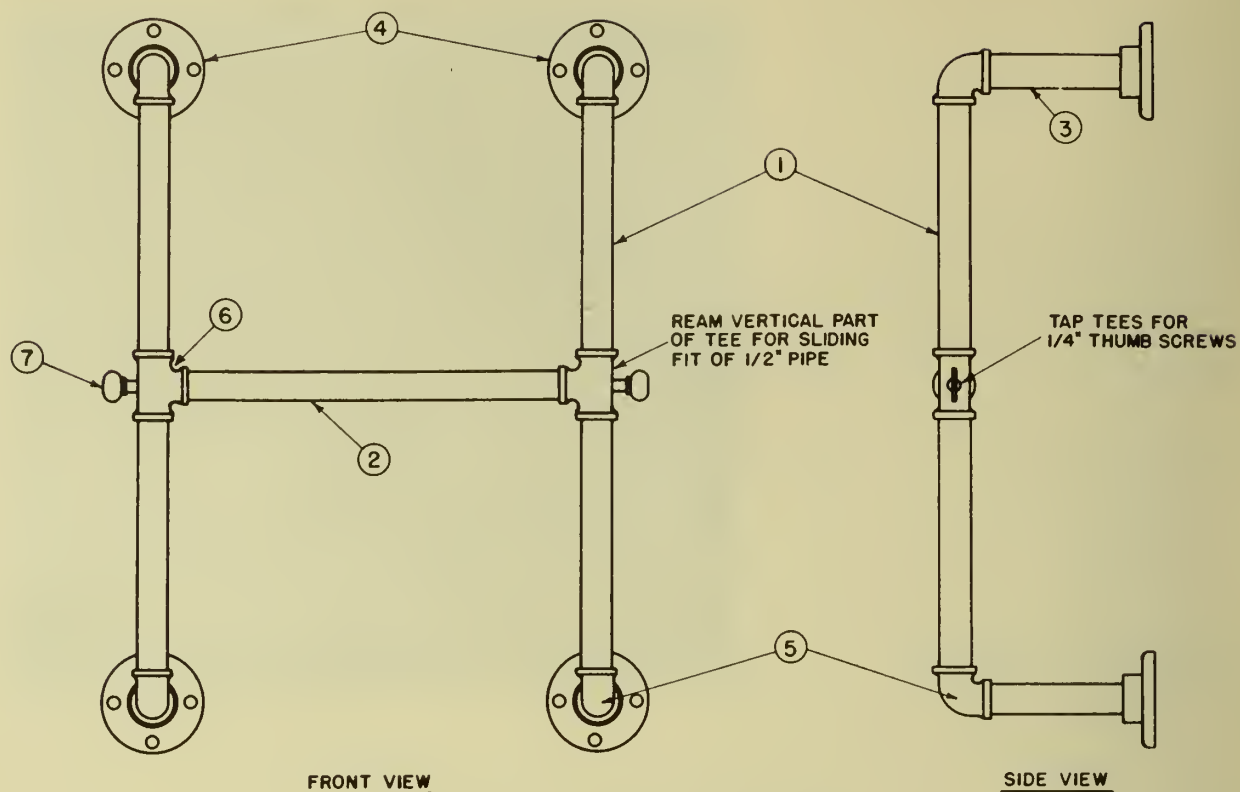
Directions: Dimensions for vertical and horizontal bars will depend on the size of the blackboard space and the size of the child and his particular need for feeling more secure. The two vertical bars are attached by screws to the wall above and below the blackboard. The distance between them should make it possible for the child to grasp either one of the vertical bars in the event he begins to lose his standing balance.

The horizontal bar should be placed about waist high for the child. It can be constructed to slide up or down the vertical bars and then made stationary at the desired height.

The bars should project about five inches from the blackboard. This permits the child to slide his hand around the bar and to write under and beyond the bar. It also prevents him from bumping his head on the blackboard and keeps him at the proper distance to allow large arm movements.

No. 2

BARS, BLACKBOARD

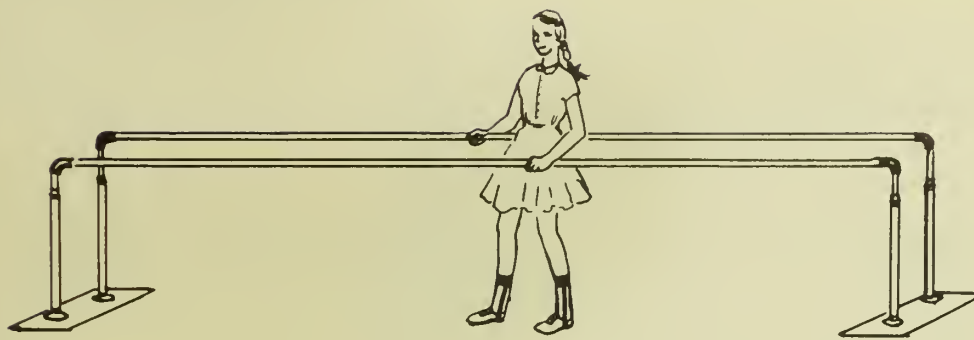


BILL OF MATERIALS

Part No.	Name of Part	No. Required	Material	Remarks
1	Vertical Bars	2	1/2" Pipe	Width Blackboard used plus 8"
2	Horizontal Bar	1	1/2" Pipe	Fitted to Child
3	Spacers	4	1/2" Pipe	4 3/4" Long
4	Flanges	4	1/2" Pipe	Floor Flange
5	Elbows	4	1/2" Elbow	Railing Fitting
6	Tees	2	3/4" Tee	Railing Fitting
7	Thumb Screws	2	1/4"	Thumb Screws

BARS, PARALLEL

Easily adjusted
in width and
height.



Children's Rehabilitation Institute, Cackeysville, Md.

PARALLEL BARS

Physical Therapy

As soon as medical recommendations are made for standing balance and walking, a therapist finds use for parallel rails. While the patient is supporting himself on the bars, the therapist's hands are free to do foot placement. Weight shifting as a preliminary to crutch walking may be taught to more advanced patients. As the patient progresses, he may be safely left to do his walking practice alone. If arm and hand involvement interferes with grasping, the hands may be bandaged to the rails during standing practice, or to slide grips for walking. The therapist should be close by for supervision whenever hands are bandaged to bars.

Any one of several different designs may be used. Simply constructed adjustable ones such as those shown above are in use in many treatment centers and homes. Desirable features, aside from simple construction, are adjustability in

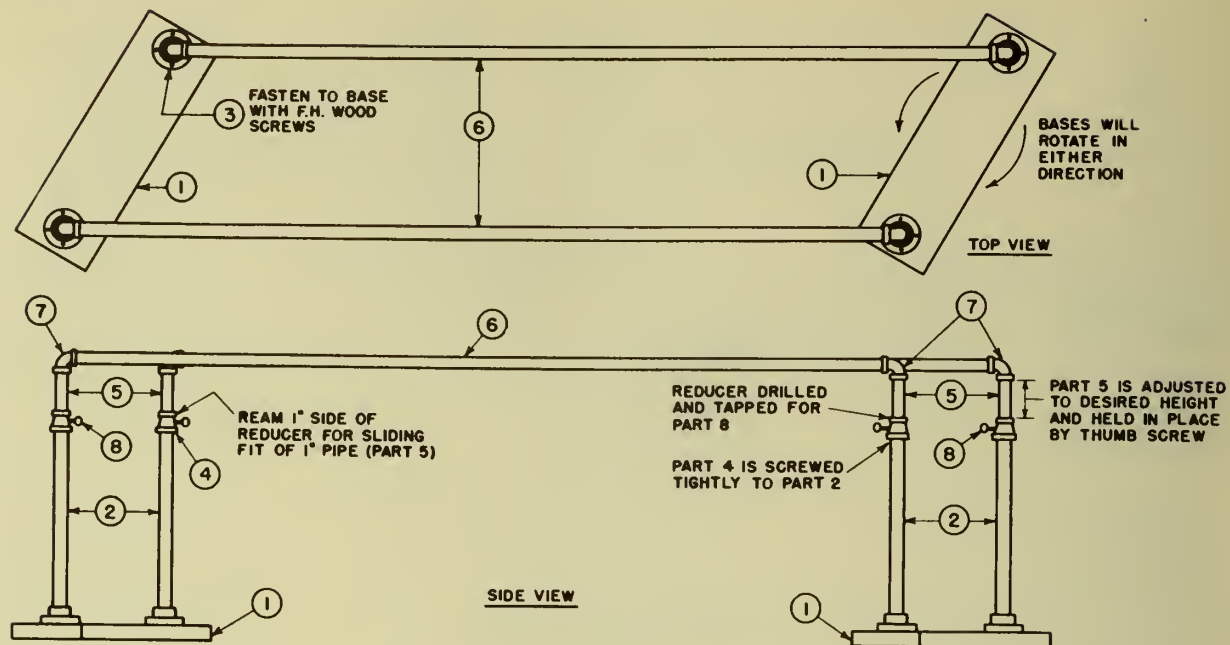
height and width and light weight for moving about the clinic. They also may be placed close against the wall for storage when floor space is at a premium.

The upright pipe is fitted into a floor flange of corresponding size. The floor flange must be secured tightly to the wood cross piece. (See construction details.) The cross piece may vary in width according to age group of patients being treated—20 inches to 26 inches are suggested.

Height of adjustment should be gauged on the same basis, varying from 24 inches for smaller children to 35 inches for adults. One inch to one and one-quarter inch piping is recommended. The upright secured piping must be enough larger to allow for height adjustment. Improvised ladders, footprint boards or abduction boards may be used with these rails.

No. 3

BARS, PARALLEL



BILL OF MATERIALS

Part No.	Name of Part	No. Required	Material	Remarks
1	Base	2	Wood	1½"x8"x26"
2	Uprights	4	Iron Pipe	1¼"—20" Long
3	Flanges	4	Iron	For 1¼" Pipe
4	Reducer	4	Iron	1¼" to 1"
5	Adjustable Uprights	4	Iron Pipe	1" x 20" Long
6	Bars	2	Iron Pipe	1" x 84" Long
7	Elbows	4	Iron	For 1" Pipe
8	Thumb Screws	4	Steel	⅜" Dia. with Cupped Point

Children's Rehabilitation Institute, Cockeysville, Md.

BARS, PARALLEL, WITH ABDUCTION BOARD AND SLIDE GRIPS



Improvised non-adjustable bars.

Children's Rehabilitation Institute, Cockeysville, Md.

PARALLEL BARS WITH ABDUCTION BOARD AND SLIDE GRIPS

Physical Therapy

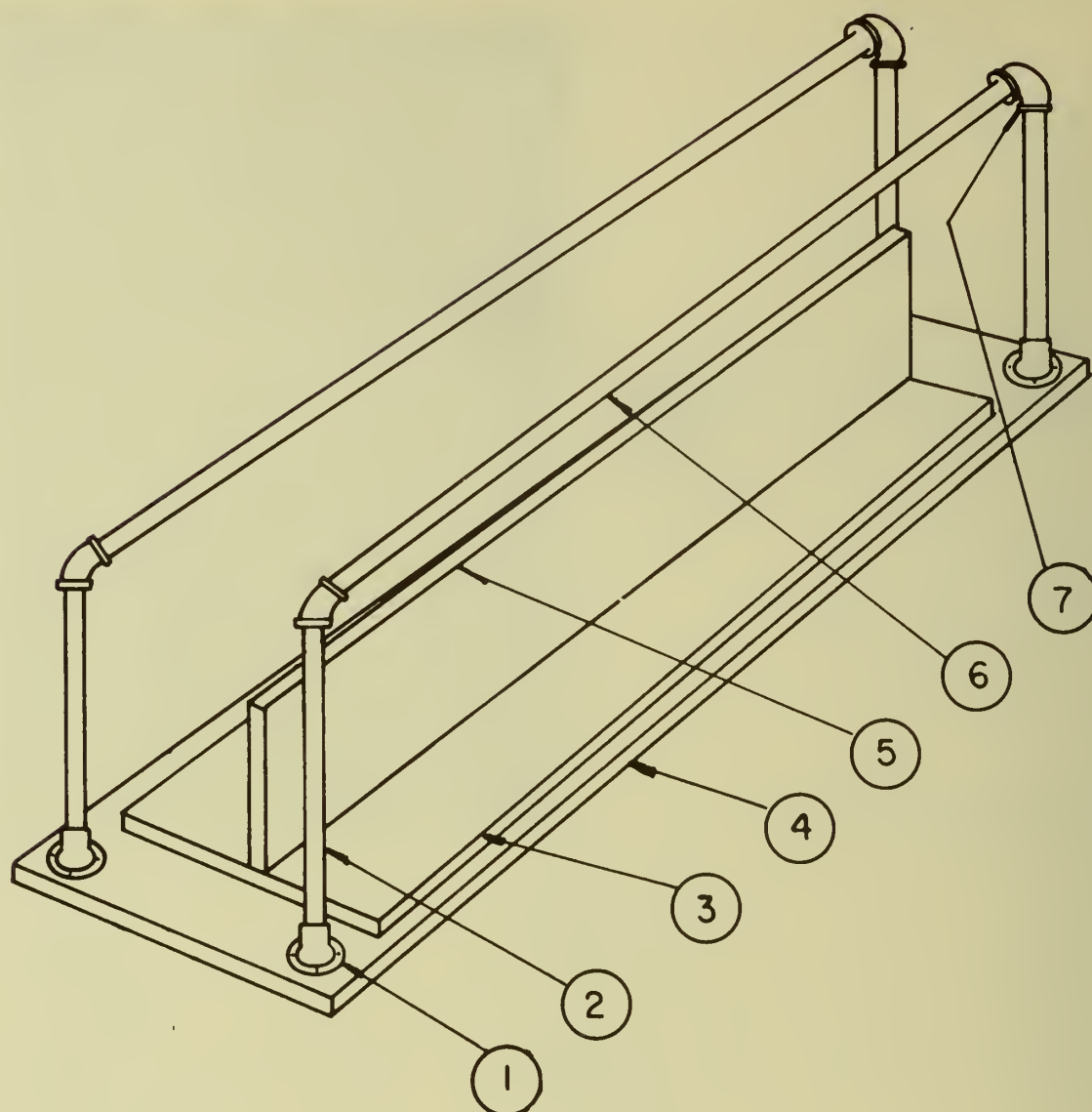
Adduction of the legs interferes with standing balance and walking. To assist the patient to maintain a normal abducted position when using parallel bars, the abduction board is often used. In this particular design, the upright board and baseboard are attached. They may be removed from bars as a unit to be used for more advanced patients who do not need hand support of the bars.

When the therapist wishes the patient to concentrate on foot placement, it is helpful to use slide grips. The hands slide forward as progres-

sion is made with feet, without effort or attention on the part of the patient. The grips may be made of metal, molded for easy grasp, or of piping one size larger than the bar.

In treatment centers serving patients who do not vary too much in height, the non-adjustable parallel bars may be preferable. Suggested measurements are: small bars, 24 inches high and 20 inches wide; medium bars, 30 inches high and 23 inches wide; large bars, 35 inches high and 26 inches wide. The minimum length should be seven feet.

BARS, PARALLEL, WITH ABDUCTION BOARD AND SLIDE GRIPS



BILL OF MATERIALS

Part No.	Name of Part	No. Required	Material	Remarks
1	Pipe Flange	4	Steel	For $\frac{3}{4}$ " Pipe
2	Pipe	4	Steel	$\frac{3}{4}$ " Pipe
			Small A:	24"—20"
			Med. B:	30"—23"
			Large C:	35"—26"
3	Plank	1	Wood	$\frac{3}{4}$ " x 14" x 72"
4	Base	1	Plywood	1" x 36" x 96"
5	Upright	1	Wood	$\frac{3}{4}$ " x 12" x 72"
6	Horizontal	2	Steel	$\frac{3}{4}$ " Pipe x 84"
7	90 Deg. Elbow	4	Steel	For $\frac{3}{4}$ " Pipe
	No. 10 Flat Head $\frac{3}{4}$ " Wood Screw	23		For Mountings

Children's Rehabilitation Institute, Cockeysville, Md.

BARS, PARALLEL, SECTIONAL



Sectional bars with adjustable removable parts.

Cerebral Palsy Pre-School Center, Lenox Hill Hospital and New York State Association for Crippled Children, Inc., New York, N. Y.

SECTIONAL PARALLEL BARS

Physical Therapy

(Refer to *Parallel Bars* and *Parallel Bars with Abduction Board and Slide Grips* for use.) The parallel bars illustrated above are designed in sections. Together, they provide a walking area 16 feet in length. One section can be used if space is limited. A ramp at each end facilitates entering the bars. Two sets of bars are constructed in one. The lower bars, as well as the upper bars, can be adjusted to allow for wider range in heights of patients. The lower bars are

18 inches wide to accommodate younger children with shorter reach, while the upper bars are 24 inches wide. Upper bars are removable. One end of each section may be jacked to give an incline after walking on the level is accomplished. The abduction board is removable. Metal pieces that fit into slots on the base at each end and in the middle of the board hold the abduction board in place. Dowel joints may be substituted for the metal.

No. 5

BARS, PARALLEL, SECTIONAL



Cerebral Palsy Pre-School Center, Lenox Hill Hospital
and New York State Association for Crippled
Children, Inc., New York, N. Y.

BARS, STALL



Kneeling balance
—a preliminary to
standing balance.

Cerebral Palsy Pre-School Center, Lenox Hill Hospital and New York State Association for Crippled Children, Inc., New York, N. Y.

STALL BARS

Physical Therapy

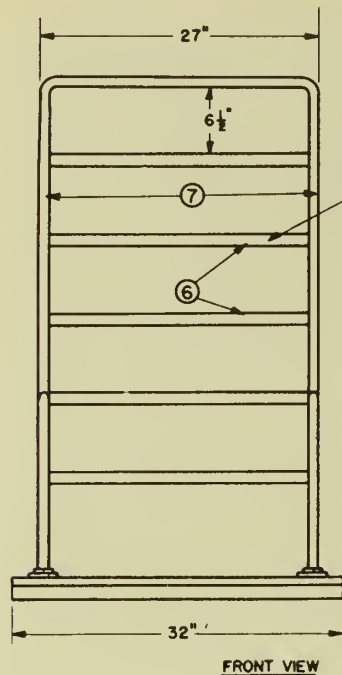
Kneeling balance is a natural progression toward standing balance. This can best be accomplished by the aid of stationary bars or poles. The bars may be made of wood rungs attached to a convenient wall space or of one-inch piping attached to a wooden platform. Stall bars made of piping are often more satisfactory because they can be moved from place to place in the clinic. Two children can practice balance at the same

time. Games may be used to motivate disinterested children.

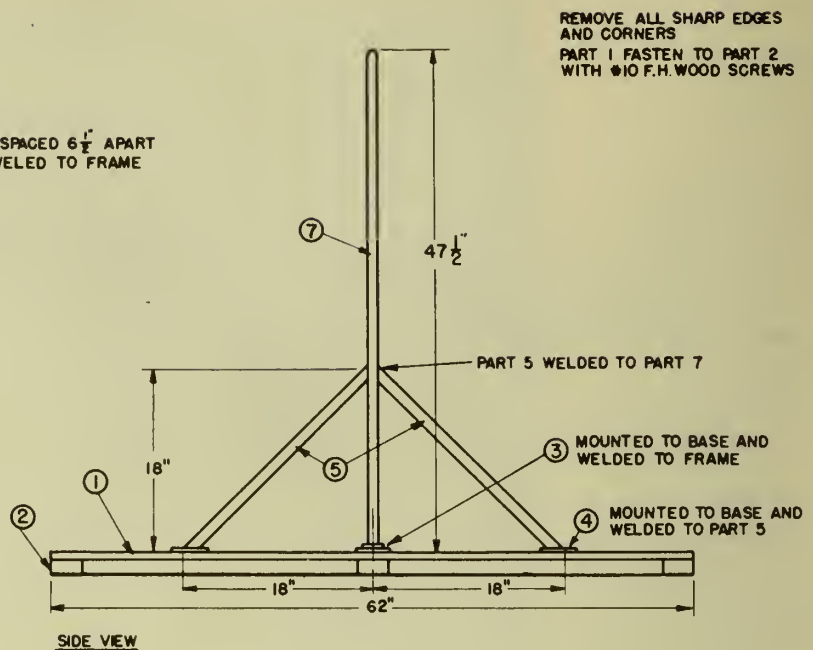
After knee balance is accomplished, the bars may be used for standing balance. Assistance should be given when necessary. As in the use of all other special equipment, careful analysis as to readiness should be made by the doctor and therapist.

No. 6

BARS, STALL



BARS SPACED 6 1/2" APART
AND WELDED TO FRAME



REMOVE ALL SHARP EDGES
AND CORNERS
PART 1 FASTEN TO PART 2
WITH #10 F.H. WOOD SCREWS

BILL OF MATERIALS

Part No.	Name of Part	No. Required	Material	Remarks
1	Base	1	Plywood	3/4" x 32" x 62"
2	Base Supports	3	Wood	1 1/2" x 3" x 32"
3	Pipe Flange	2	Steel	For 1" Pipe
4	Brace Plates	4	Steel	1/4" x 1 1/2" x 4"
5	Braces	4	Steel	1" Pipe
6	Bars	5	Steel	1" Pipe
7	Frame	1	Steel	1" Pipe
8	Side Supports	2	Wood	1 1/2" x 3" x 56"

Cerebral Palsy Pre-School Center, Lenox Hill Hospital and New York State Association for Crippled Children, Inc., New York, N. Y.

BATHROOM AIDS



Self-help should be learned early.

Michael Reese Hospital Therapeutic Day Nursery, Chicago, Ill.

BATHROOM AIDS

Occupational Therapy—Special Education

The cerebral palsied child should be taught to care for his personal needs. Often, while he is learning, carefully thought-out devices such as the following will be of help:

1. Use a low platform or steps in front of or beside the wash basin or toilet, to raise the child to the right level. A railing or bar can be attached for more security.
2. Thread a piece of soft heavy cord through a cake of soap and hang it around the child's neck.
3. Drill a hole through a cake of soap. Tie a ribbon to the faucet; run it through the soap

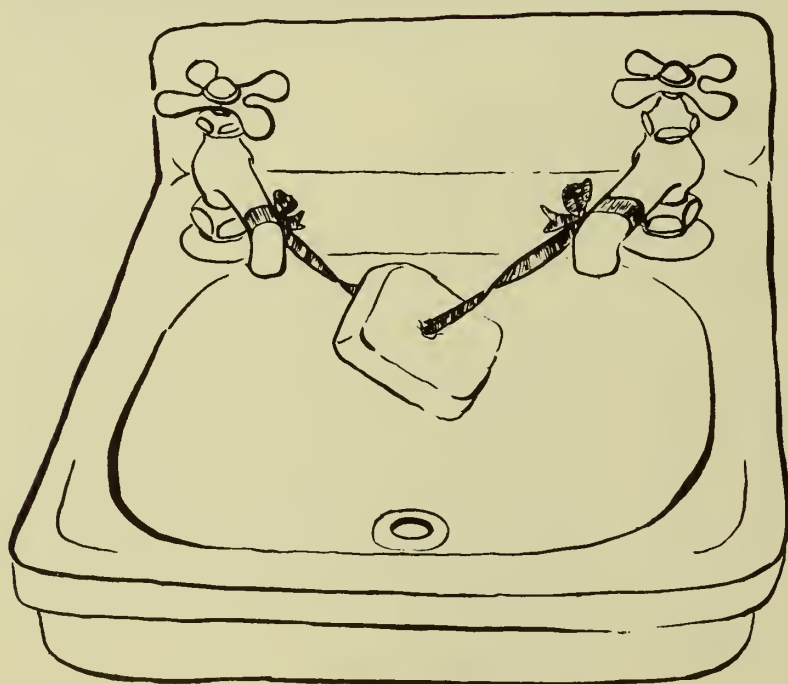
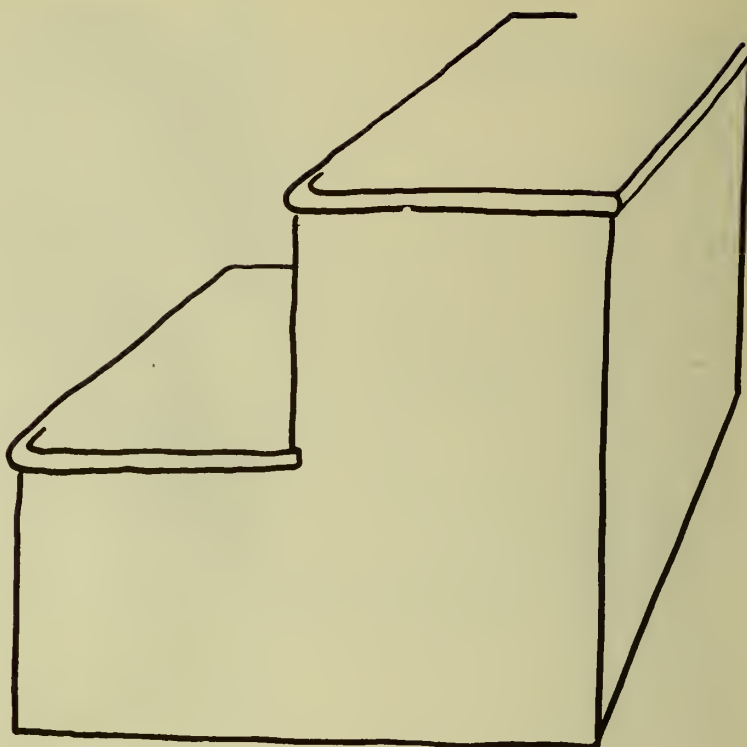
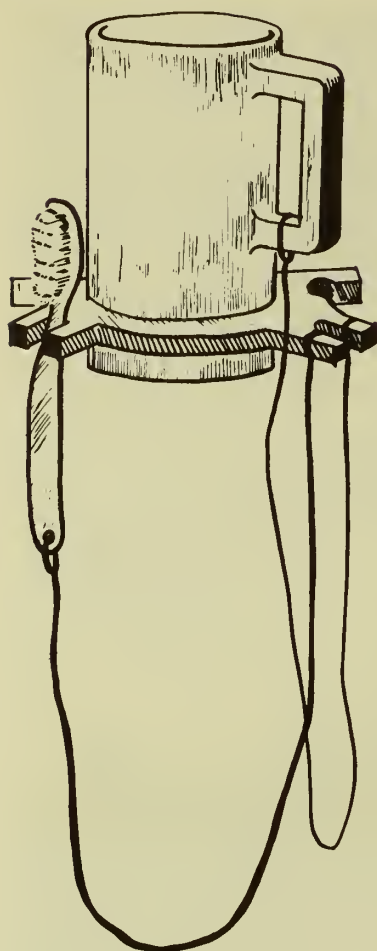
and tie it to the other faucet. This will hold the soap in place as the child uses it.

4. Tie the toothbrush and the toothbrush mug to the stationary holder with pieces of elastic. If the child drops them, they will not fall on the floor. The individual towel and wash cloth also can be tied to low wall hooks in this manner.

In a school for cerebral palsied children it is desirable to have the plumbing fixtures* at the correct height for the children. This in itself will be a help in training them to care for their personal needs.

*See *Commercial Listing*.

BATHROOM AIDS



Children's Rehabilitation Institute, Cockeyville, Md.

BENCHES, GRADUATED



Several graduated benches can be converted into stairs.

Cerebral Palsy Pre-School Center, Lenox Hill Hospital and New York State Association for Crippled Children, Inc., New York, N. Y.

GRADUATED BENCHES

Physical Therapy—Occupational Therapy—Special Education

Eight individual benches made of wood, graduated in size from four inches by 11 inches by 24 inches to 18 inches by 11 inches by 24 inches, may be used in all therapies for almost all purposes from footstools to stairs. They may serve as benches for sitting balance training in front of the mirror, accommodating therapist as well as the child. They may be used during games.

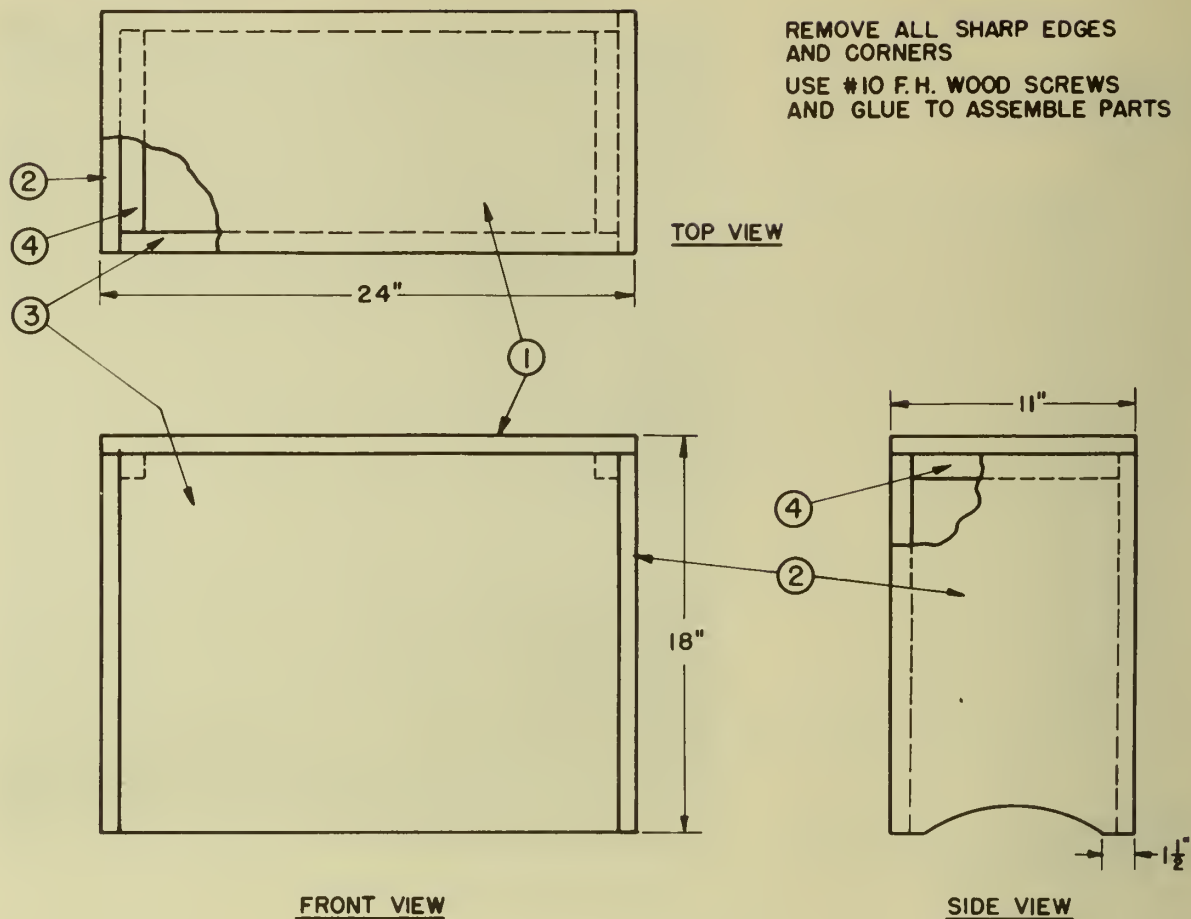
The gradations of two inches in height from the lowest bench to the highest make it easy to

convert them into practice stairs. Mildly involved children who have previously learned some stair techniques need little assistance in ascending and descending. The stair risers may be adjusted by removing every other bench.

Careful supervision is necessary when using benches as stairs even though they are made of heavy, solid blocks of wood. It is suggested that each bench be painted a different color.

No. 8

BENCHES, GRADUATED



BILL OF MATERIALS

Part No.	Name of Part	No. Required	Material	Remarks
1	Top	1	Wood	7/8" x 11" x 24"
2	Sides	2	Wood	7/8" x 11" x 17 1/8"
3	Ends	2	Wood	7/8" x 17 1/8" x 22 1/4"
4	Supports	2	Wood	1" x 1" x 9 1/4"

Cerebral Palsy Pre-School Center, Lenox Hill Hospital and New York State Association for Crippled Children, Inc., New York, N. Y.

BICYCLE STAND, STATIONARY



Conventional bicycle made stationary.

State University of Iowa Hospitals, Iowa City, Iowa

STATIONARY BICYCLE STAND

Physical Therapy

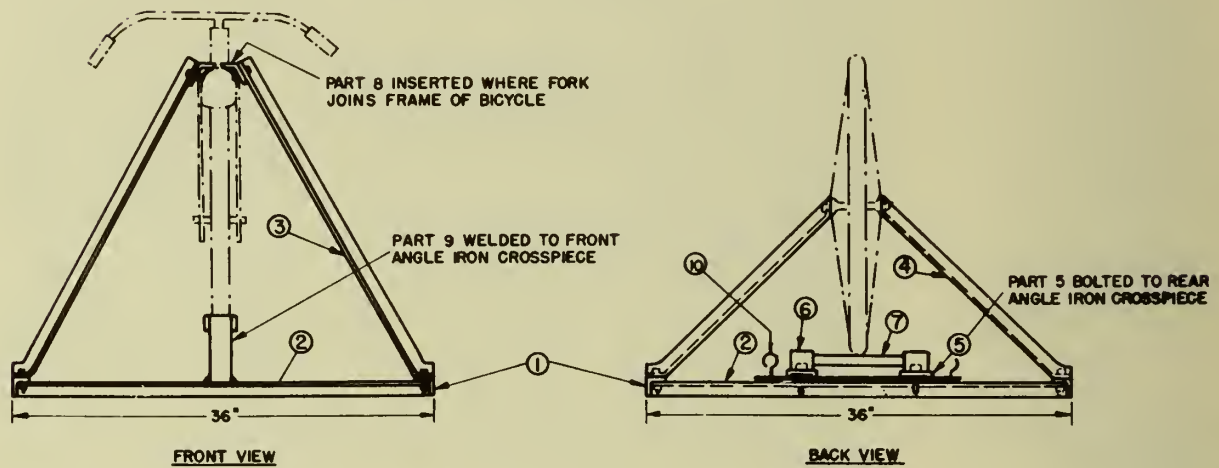
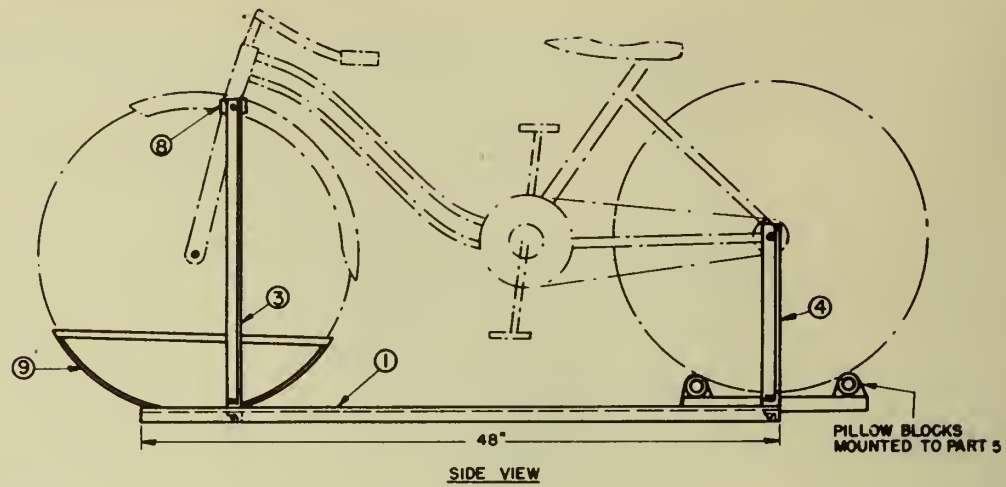
A stationary bicycle is a useful piece of equipment for teaching reciprocal motion of the legs. By adding a mechanism to control resistance to the rear wheel, it can be used for strengthening muscles of the trunk and lower extremities. The resistance should be adjusted according to the muscle power of the individual. Motion at ankles,

knees and hips may be encouraged by the therapist during exercise period for those patients who have limited joint motion.

This simple improvised bicycle stand makes it possible to convert a conventional bicycle into a stationary one with ample support and stability for an adult.

No. 9

BICYCLE STAND, STATIONARY



BILL OF MATERIALS

BILL OF MATERIALS					
Part No.	Name of Part	No. Required	Materials	Remarks	
1	Sides	2	Angle Iron	For 1½" Dia. Rollers	
2	Cross Pieces	2	Angle Iron		
3	Front Wheel Support	2	Angle Iron		
4	Rear Wheel Support	2	Angle Iron		
5	Bearing Supports	2	Channel Iron		
6	Pillow Blocks	4			
	Ball Bearings				
7	Rollers	2	1½" Dia.		
8	Front Wheel Bracket	2	¼" Steel		
9	Front Wheel Rest	1	¼" Steel		
10	¼" Eye Bolt Adjustment	2	Steel		

State University of Iowa Hospitals, Iowa City, Iowa

BLOCKS, BUILDING



Satisfy basic creative urges and help to develop manipulative skills.

Potomac Engineering Corporation, Chicago, Ill.

BUILDING BLOCKS

General Equipment

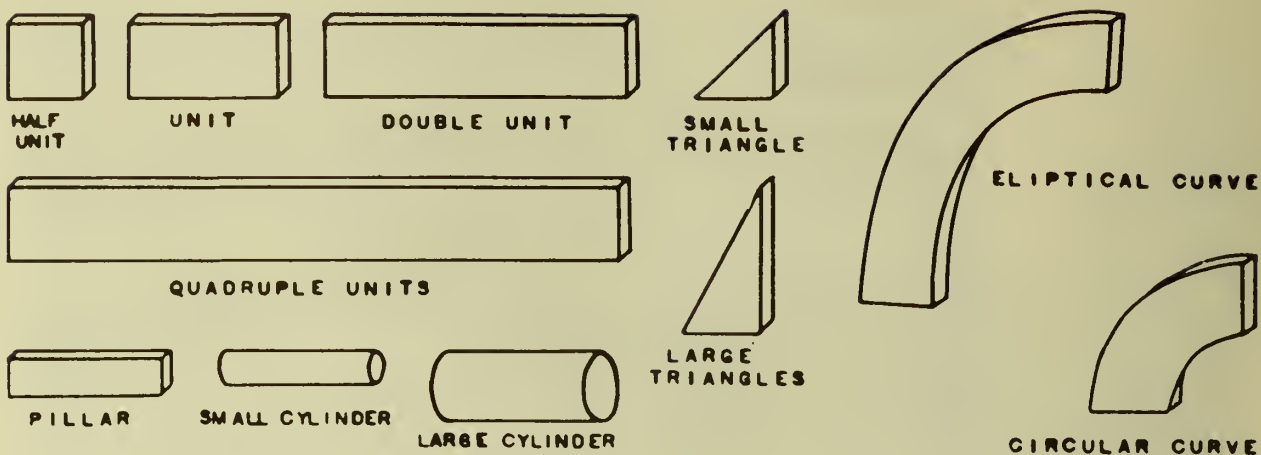
Blocks for building will be used from babyhood into school age. Varying sizes, lengths and shapes of wood present a challenge to a child's creative urge. They have appeal for most children regardless of the degree of their physical involvement. They provide an opportunity for children to become acquainted with different

shapes, sizes and weights; to learn to plan and work together; to use speech freely and spontaneously; to improve eye and hand coordination as well as provide a great deal of pleasure.

Block construction may be carried on at a standing table, a regular table or on the floor.

No. 10

BLOCKS, BUILDING



BILL OF MATERIALS

Name of Block	No. of Pieces Per Set	Size
Half unit	100	$1\frac{3}{8}" \times 2\frac{3}{4}" \times 2\frac{3}{4}"$
Unit	400	$1\frac{3}{8}" \times 2\frac{3}{4}" \times 5\frac{1}{2}"$
Double Unit	300	$1\frac{3}{8}" \times 2\frac{3}{4}" \times 11"$
Quadruple Unit	100	$1\frac{3}{8}" \times 2\frac{3}{4}" \times 22"$
Pillars	80	$1\frac{3}{8}" \times 1\frac{3}{8}" \times 5\frac{1}{2}"$
Large Cylinder	40	$2\frac{3}{4}" \text{ Dia.} \times 5\frac{1}{2}"$
Small Cylinder	20	$1\frac{3}{8}" \text{ Dia.} \times 5\frac{1}{2}"$
Circular Curve	40	$1\frac{3}{8}" \times 2\frac{3}{4}" \times 90 \text{ Deg.}$
Elliptical Curve	20	$1\frac{3}{8}" \times 2\frac{3}{4}" \times 90 \text{ Deg.}$
Large Triangle	60	$1\frac{3}{8}" \times 2\frac{3}{4}" \times 5\frac{1}{2}"$
Small Triangle	20	$1\frac{3}{8}" \times 2\frac{3}{4}" \times 2\frac{3}{4}"$
Color Cube	100	$1" \times 1" \times 1"$
Finish — sanded, natural.		

Potamac Engineering Corporation, Chicago, Ill.

BLOCKS, LARGE HOLLOW



Provide exercise and stimulate dramatic play.

Potomac Engineering Corporation, Chicago, Ill.

LARGE HOLLOW BLOCKS

General Equipment

Children have to develop their muscles by using them. To build up strong bodies, children must lift, push and climb.

Play with large hollow blocks requires the use of two hands and brings into action many of the large muscles of the body. These blocks may be used by one child or a group of children in dramatic play. The ambulatory children may do

the lugging and lifting while the moderately and severely handicapped children may help direct the activity and participate in the dramatic play.

Group experience of planning, building and working together gives each child a sense of belonging and does much for morale and overall development.

5½" x 11" x 11"

Painted Green

5½" x 5½" x 11"

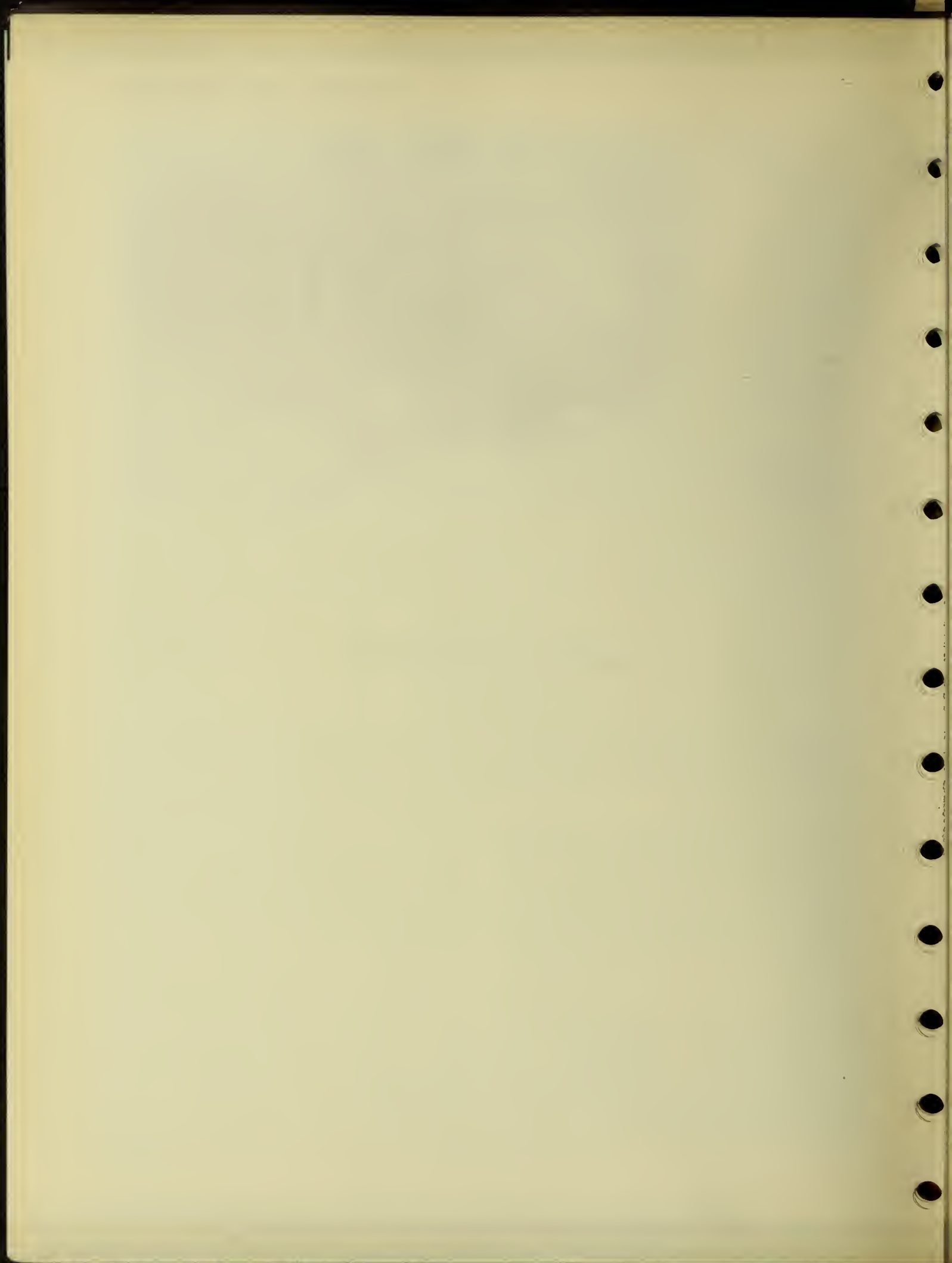
Natural Finish

5½" x 5½" x 11"

Painted Green

} Two Sizes

CONSTRUCTION: Sides and ends well glued with tenon and groove type corners or equal; all corners and edges rounded.



BOOKRACK, SMALL ADJUSTABLE



Holds book in place at proper eye level.



School District of the City of Wyandotte, Mich.

SMALL ADJUSTABLE BOOKRACK

Special Education

Many children are unable to maintain good posture and body alignment or see printed material when a book is placed flat on the table.

This bookrack, adjustable for individual differences, holds the book in place at correct eye level. It has four features: a proper backboard tilt, correct height, an adjustment on the base which allows a six-inch distal range, page fasteners which may be moved up or down and adjusted according to desired height for holding book open and in place.

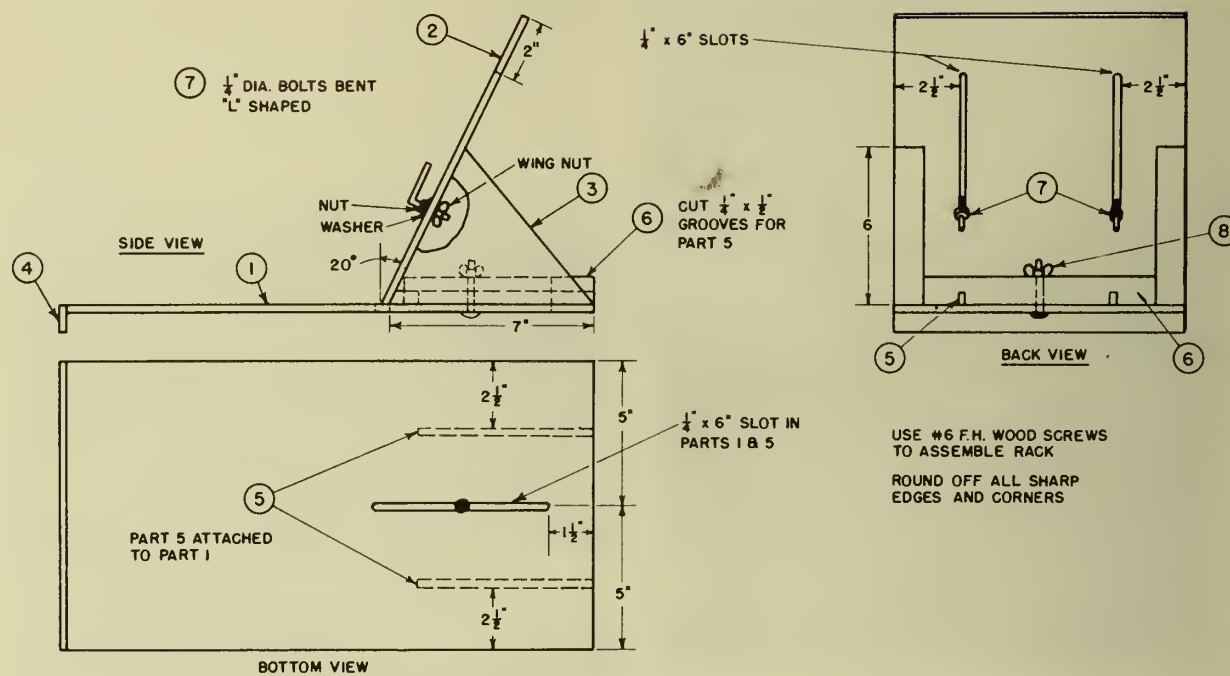
The provision of a properly adjusted bookrack

may help to minimize some frustrating problems and enable a child to enjoy his independent reading experience.

Make in two separate parts: the baseboard and the bookrack (which rests on top). The rack may then be slid back and forth to proper reading distance.

A one-inch board attached along the front edge of the baseboard holds the baseboard in place and prevents the child from pushing the rack forward as he turns the pages.

BOOKRACK, SMALL ADJUSTABLE



BILL OF MATERIALS

Part No.	Name of Part	No. Required	Material	Remarks
1	Baseboard	1	Wood	1/4" x 10" x 18"
2	Book Board	1	Wood	1/4" x 10" x 12"
3	Sides	2	Wood	1" x 6" x 7"
4	Edge	1	Wood	3/8" x 1" x 10"
5	Guides	2	Wood	1/4" x 1/2" x 6"
6	Guide Board	1	Wood	1" x 8" x 8"
7	Book Holders	2	Steel	1/4" Dia.
8	Winged Nut and Bolt	1	Steel	1/4" Dia.

School District of the City of Wyandotte, Mich.

BOOKRACK, WHEEL CHAIR



Enables child to read in comfort.



School District of the City of Wyandotte, Mich.

WHEEL CHAIR BOOKRACK

Special Education

This lapboard is helpful for a child in a wheel chair. It brings the book up to the child's eye level and helps to maintain good body alignment and posture while reading or using hands.

The rack which holds the book is adjustable. To adjust position of the book, the elbow page fasteners (with wing nut screws in back) may be raised or lowered according to the correct read-

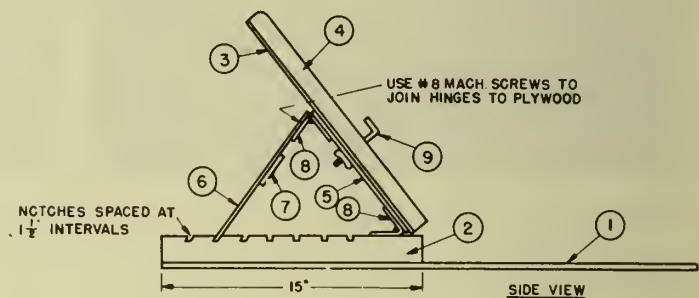
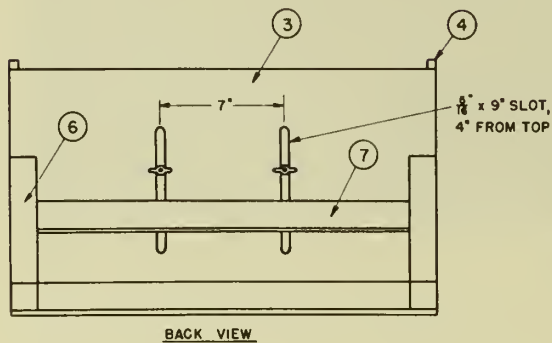
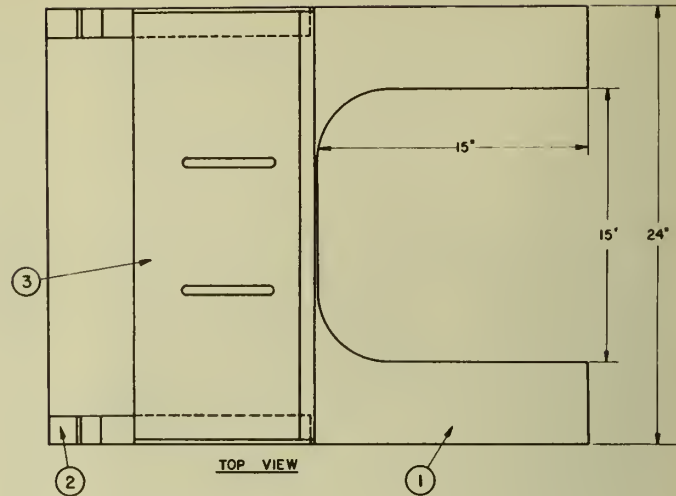
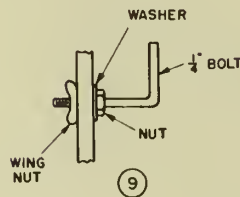
ing height for the child. The side boards on the bookrack prevent the book from slipping off.

Instructions: The dimensions for the wheel chair bookrack will vary according to the size and type of wheel chair used. Dimensions given on diagram are scaled for the wheel chair shown in photograph.

No. 13

BOOKRACK, WHEEL CHAIR

REMOVE ALL SHARP EDGES AND CORNERS
USE #8 F.H. WOOD SCREWS AND GLUE TO ASSEMBLE PARTS UNLESS OTHERWISE NOTED

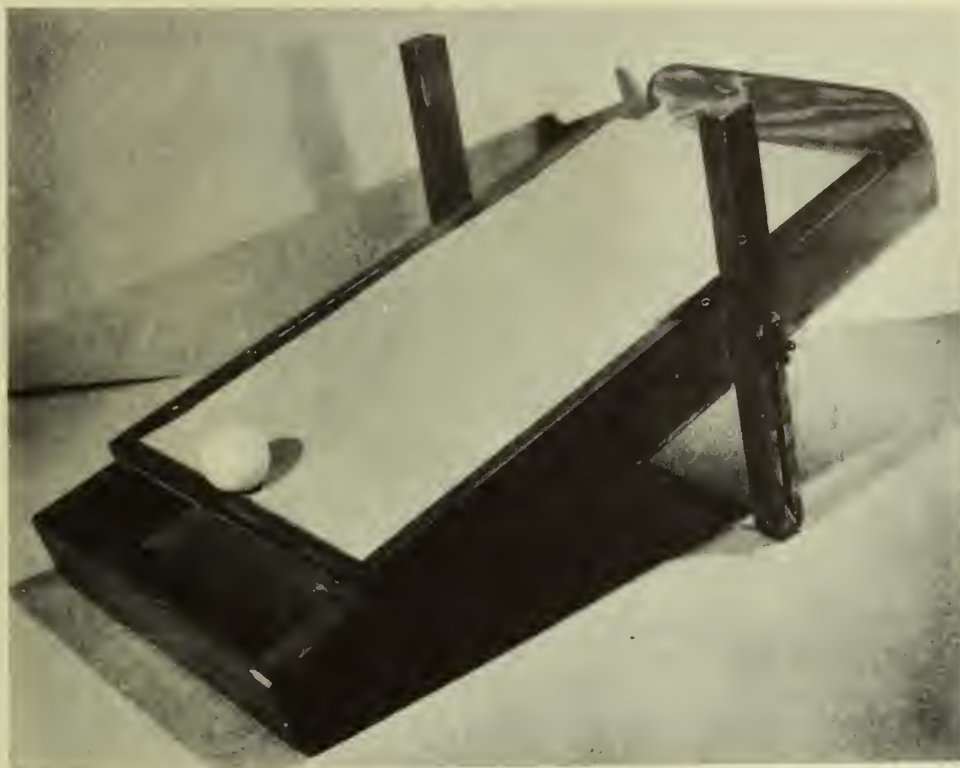


BILL OF MATERIALS

Part No.	Name of Part	No. Required	Material	Remarks
1	Base	1	Plywood	1/4" x 24" x 30"
2	Notched Blocks	2	Wood	1 1/2" x 1 1/2" x 15"
3	Book Rest	1	Plywood	1/4" x 15" x 24"
4	Book Rest Sides	2	Wood	1/2" x 1" x 15"
5	Hinge Blocks	2	Plywood	1/4" x 1 1/2" x 9"
6	Adjusting Legs	2	Plywood	1/4" x 1 1/2" x 6"
7	Adjustings Legs Bar	1	Plywood	1/4" x 1 1/2" x 24"
8	Hinges	4	Steel	1 1/2" Wide
9	Book Holders	2		

School District of the City of Wyandotte, Mich.

BREATH CONTROL: INCLINED PLANE



Has a variety of uses in speech therapy.

University of Illinois Speech Clinic, Urbana, Ill.

BREATH CONTROL: INCLINED PLANE

Speech

The inclined plane may be used in speech therapy for: (1) developing the control of a steady, sustained flow of air, and (2) encouraging the direction of the air through the mouth.

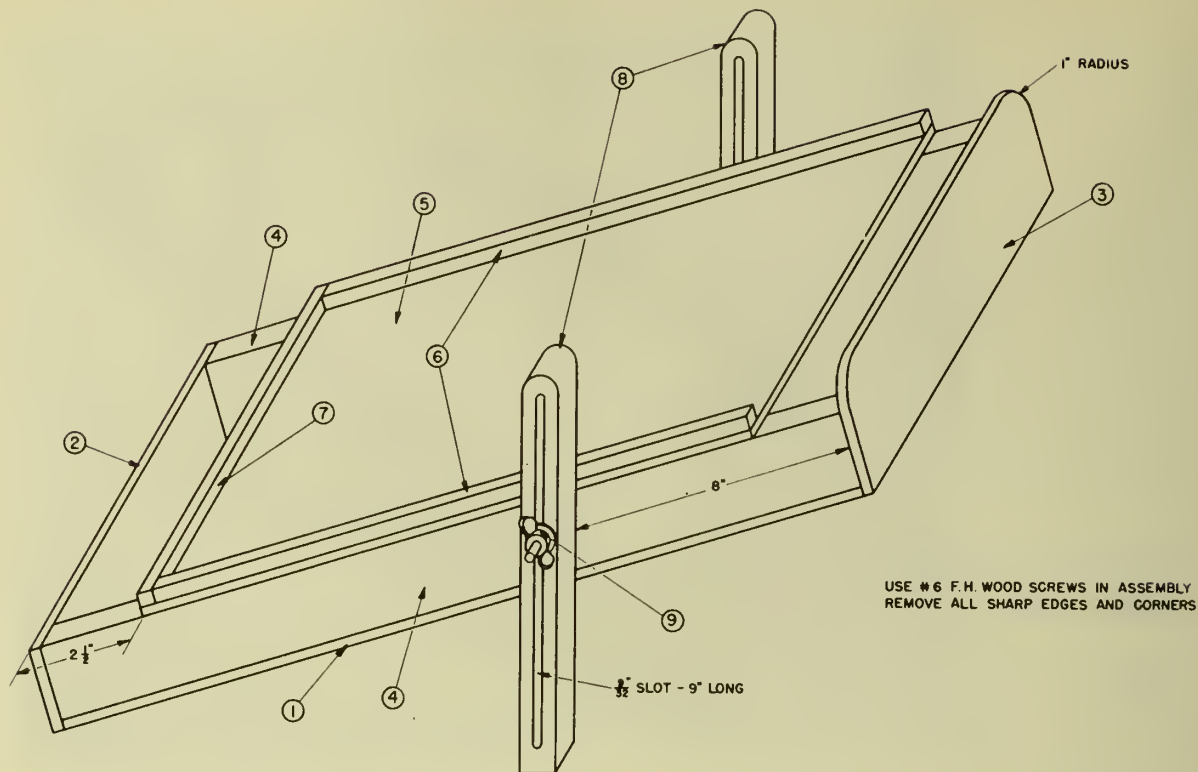
The plane is made from a box, one end of which is supported by adjustable legs so that the tilt of the box can be regulated. A ping pong ball, placed on the starting ledge, is blown up the incline by the patient. When the ball reaches

the top, it drops into the box and rolls back down again.

Many variations are possible. The patient may gain strength in exhalation by rapidly blowing the ball up a steep plane, or may gain control and steadiness by slowly blowing it up a gradual slope. Maintaining the ball in one spot part of the way up the box encourages steadiness and prolongation of the exhalation at the same time.

No. 14

BREATH CONTROL: INCLINED PLANE



BILL OF MATERIALS

Part No.	Name of Part	No. Required	Material	Remarks
1	Base	1	Plywood	$\frac{1}{4}$ " x 10" x $23\frac{1}{2}$ "
2	Front	1	Plywood	$\frac{1}{4}$ " x $2\frac{1}{2}$ " x 10"
3	Back	1	Plywood	$\frac{1}{4}$ " x $3\frac{1}{2}$ " x 10"
4	Sides	2	Wood	$\frac{3}{4}$ " x $2\frac{1}{4}$ " x $23\frac{1}{2}$ "
5	Tray Base	1	Plywood	$\frac{1}{4}$ " x 10" x 19"
6	Tray Sides	2	Wood	$\frac{3}{8}$ " x $\frac{3}{8}$ " x $18\frac{5}{8}$ "
7	Tray Front	1	Wood	$\frac{3}{8}$ " x $\frac{3}{8}$ " x 10"
8	Legs	2	Wood	1" x 1" x $11\frac{1}{4}$ "
9	Bolt and Wing Nut Washer	2	Steel	$\frac{1}{4}$ " x $2\frac{1}{2}$ " Long Bolt $\frac{1}{4}$ " Nut and Washer

University of Illinois Speech Clinic, Urbana, Ill.

BREATH CONTROL, ORAL: BREATHING TUBE



Synchronized breathing through blowing exercise.

Northwestern University Speech and Hearing Clinic, Evanston, Ill.

ORAL BREATH CONTROL: BREATHING TUBE

Speech

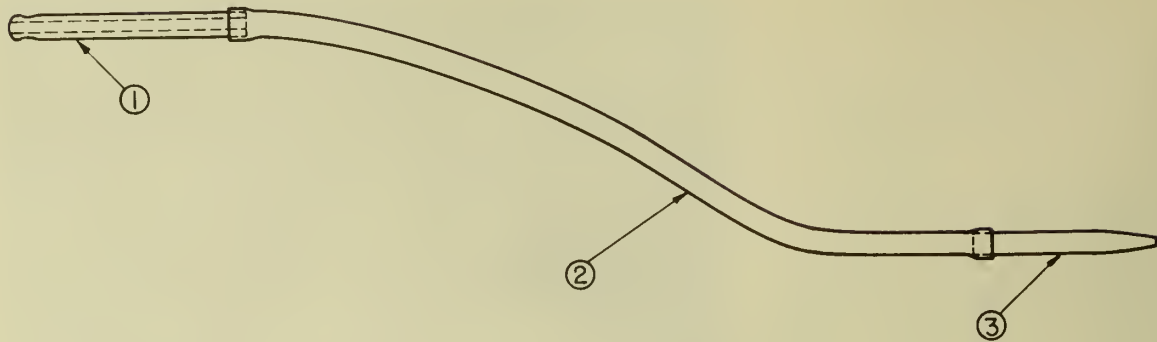
Many of the blowing devices used by the speech therapist require that a child not only exhale through his mouth but that he carefully aim the air stream in order to blow the confetti or candles (or whatever else is used). This complete control is very difficult for many children.

In the beginning, the child can concentrate on the blowing alone while using the blowing tube. The therapist may direct the air stream and the rubber tube can adjust to the effect of extraneous

movement. The tube may serve another purpose. When the child's initial efforts are weak, it is necessary to place things to be blown so close to the child's face that he cannot see the result of his effort. The visual problems of many cerebral palsied children interfere with this near vision. The blowing tube simplifies the exercises by enabling the placement of the visual aids at a point where observation is more complete and easier.

No. 15

BREATH CONTROL, ORAL: BREATHING TUBE



BILL OF MATERIALS				
Part No.	Name of Part	No. Required	Material	Remarks
1	Mouthpiece	1	Wood	$\frac{1}{4}$ " Dia.—2" Long
2	Tubing	1	Rubber	$\frac{1}{4}$ " Dia.—2' Long
3	Eye Dropper	1	Glass	

Northwestern University Speech and Hearing Clinic, Evanston, Ill.

BREATH CONTROL, ORAL: CLOWN BOARD

Helps sustain air pressure and motivates direction of oral breath stream for speech.



Northwestern University Speech and Hearing Clinic, Evanston, Ill.

ORAL BREATH CONTROL: CLOWN BOARD

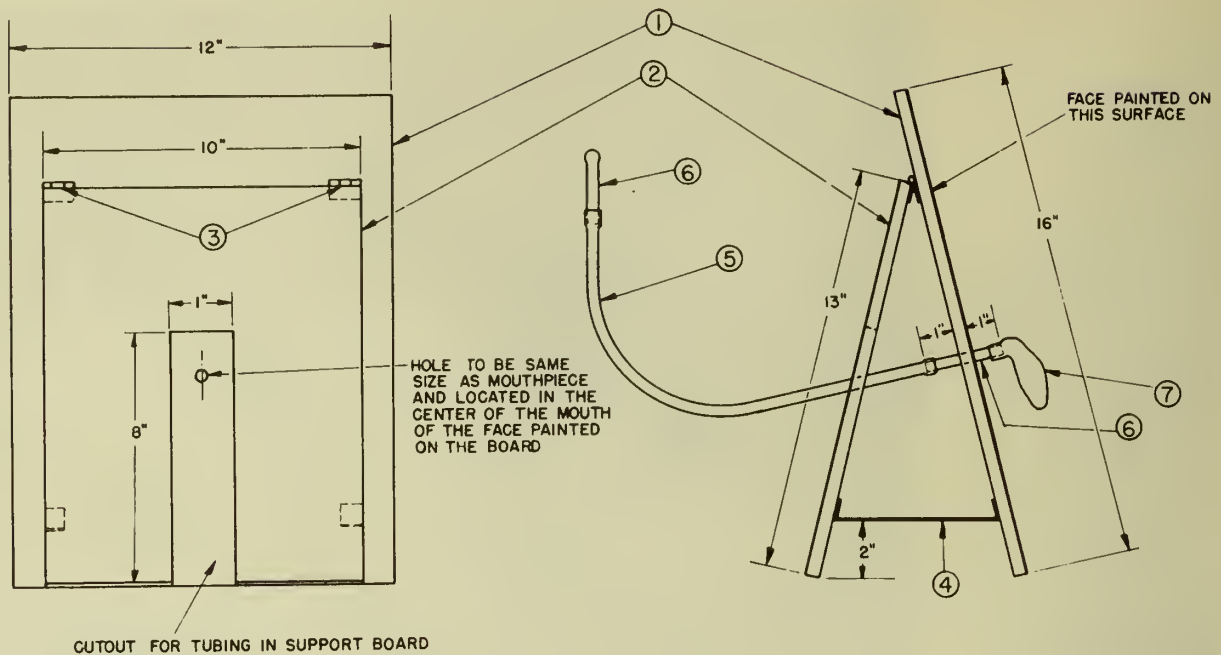
Speech

The clown board is another device providing interesting visual clues for sustained exhalation through the mouth. Balloons, whistles, feather mustaches, bubble pipes, confetti and numerous other things may be placed in the clown's mouth—even a cigar.

The rubber tubing enables the child to succeed in blowing even though he cannot control extraneous movements which might affect his aiming his breath stream in many blowing exercises. The tubing also effects a removal of the results of the blowing to a position from which it can be observed easily and completely.

No. 16

BREATH CONTROL, ORAL: CLOWN BOARD



BILL OF MATERIALS				
Part No.	Name of Part	No. Required	Material	Remarks
1	Face Board	1	Plywood	$\frac{3}{8}$ " x 12" x 16"
2	Support Board	1	Plywood	$\frac{3}{8}$ " x 10" x 13"
3	Hinges	2	Steel	1" x 1"
4	Tape	2	Canvas Cloth	$\frac{1}{2}$ " x 7"
5	Tubing	1	Rubber	36" Long
6	Mouthpiece	2	Wood	$2\frac{3}{8}$ " Long
7	Balloon	1	Rubber	

Northwestern University Speech and Hearing Clinic, Evanston, Ill.

BREATHING: ABDOMINAL CORSET



Restrains abdominal movement and encourages chest breathing.

Northwestern University Speech and Hearing Clinic, Evanston, Ill.

BREATHING: ABDOMINAL CORSET

Speech—Physical Therapy

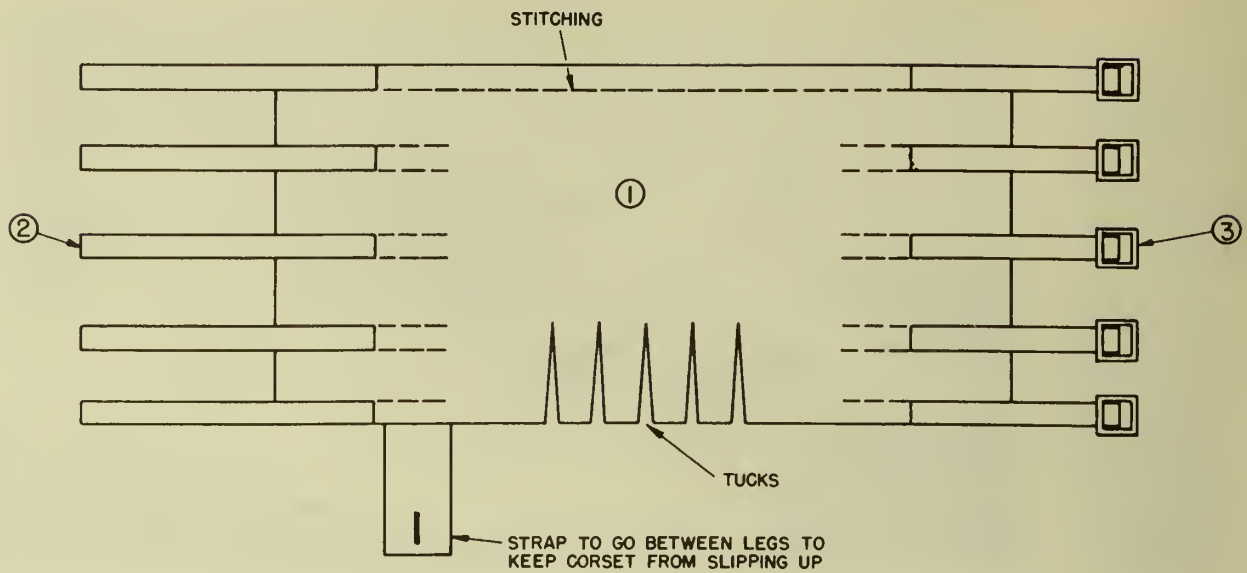
The child who has weak chest and neck muscles usually continues with an infantile breathing pattern characterized by excessive diaphragmatic activity and little thoracic breathing. This is sometimes referred to as "reversed breathing."

Early cooperation from the physical therapist in strengthening the muscles of the neck, chest and upper back is important to achieve a basic

readiness for a more normal breathing pattern which will support speech efforts. When the essential muscles are strengthened, a shift to more extensive use of thoracic breathing can be encouraged through the use of the illustrated corset, which resists the expansion of the abdominal area. A stiffening material (cardboard) cut to fit the anterior abdominal wall and epigastric region often makes the corset more effective.

No. 17

BREATHING: ABDOMINAL CORSET



BILL OF MATERIALS				
Part No.	Name of Part	No. Required	Material	Remarks
1	Body	1	Heavy Denim	Slide Type
2	Straps	5	Heavy Cloth	
3	Plated Buckles	5	Steel	
	Button	1		

Northwestern University Speech and Hearing Clinic, Evanston, Ill.

BUS; TRAFFIC SIGNALS

The cerebral palsy child needs to judge his time and ability at traffic lights.



A. Harry Moore School, Jersey City, N. J.

Learning to use a public conveyance.

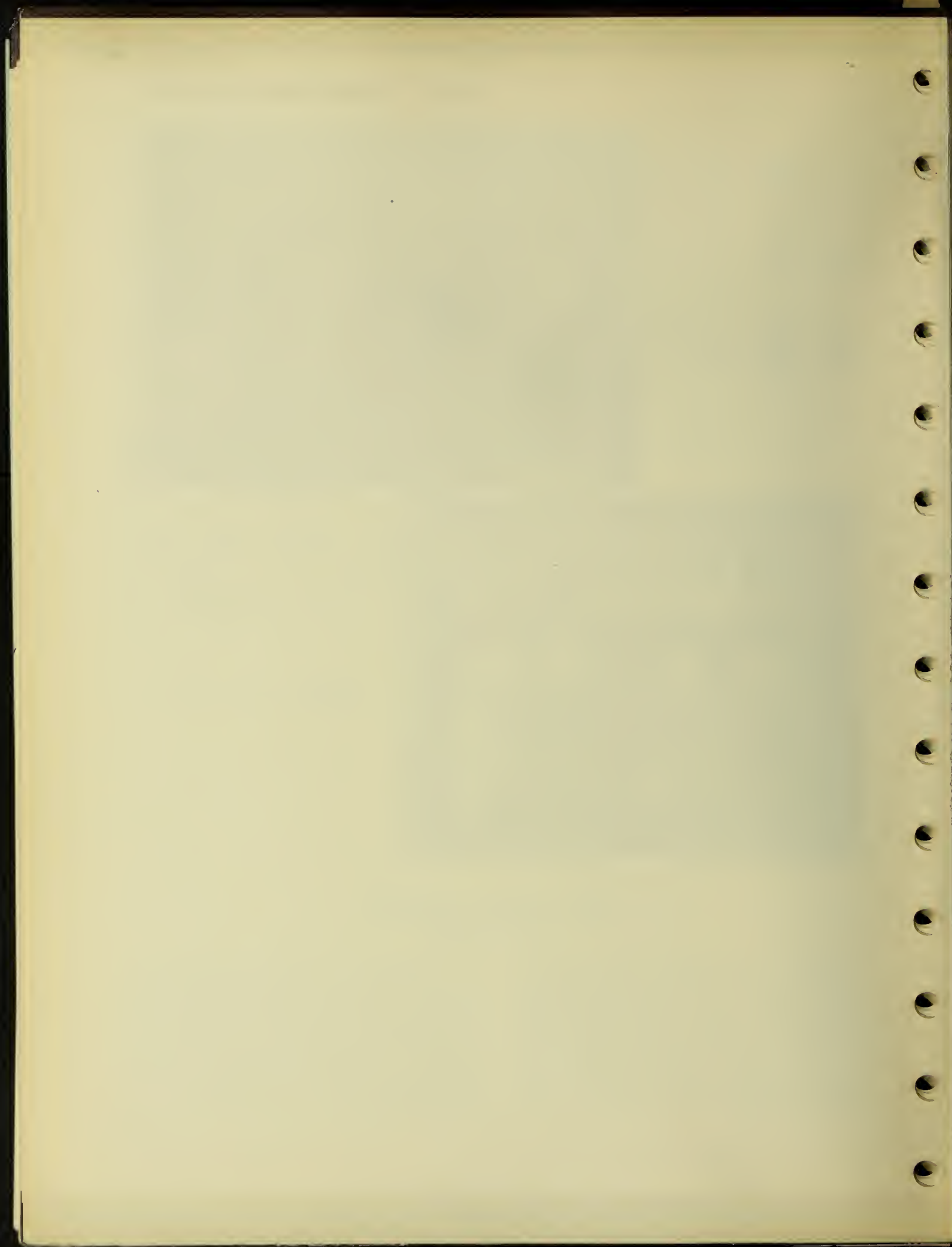
BUS; TRAFFIC SIGNALS

General Equipment

Functional daily activity skills can be learned in the treatment center if standard equipment is made available. As the rehabilitation process goes forward, a child's ability to board a bus or streetcar, step down from a curb and cross the street with the green light may mean the difference between going to a public school or being homebound.

A portion of a bus (such as the one pictured) often can be obtained through the cooperation of the local transit company. The city council or traffic department (either state or local) is a resource for traffic signals. Note the wooden portable block of street, curb height, used with the signal practice.

No. 18



CHAIR, BRACE, WITH ADJUSTABLE LEG BOARD



For the child who wears long leg braces with the knees locked.

Fresno City Unified School District, Fresno, Calif.

BRACE CHAIR WITH ADJUSTABLE LEG BOARD

Occupational Therapy

This sturdy chair with wide base is adapted for a child wearing long leg braces with the knees locked. The hinged back is held in any one of several positions by means of a bolt. As the child's tolerance for the locked braces develops, the angle of seat to back may be decreased gradually to approach the more nearly upright position. The length of the footboard is also adjustable.

In designing a chair of this type, extreme care must be exercised to secure the correct slant, so that the child's weight is evenly supported and does not all rest on his heels.

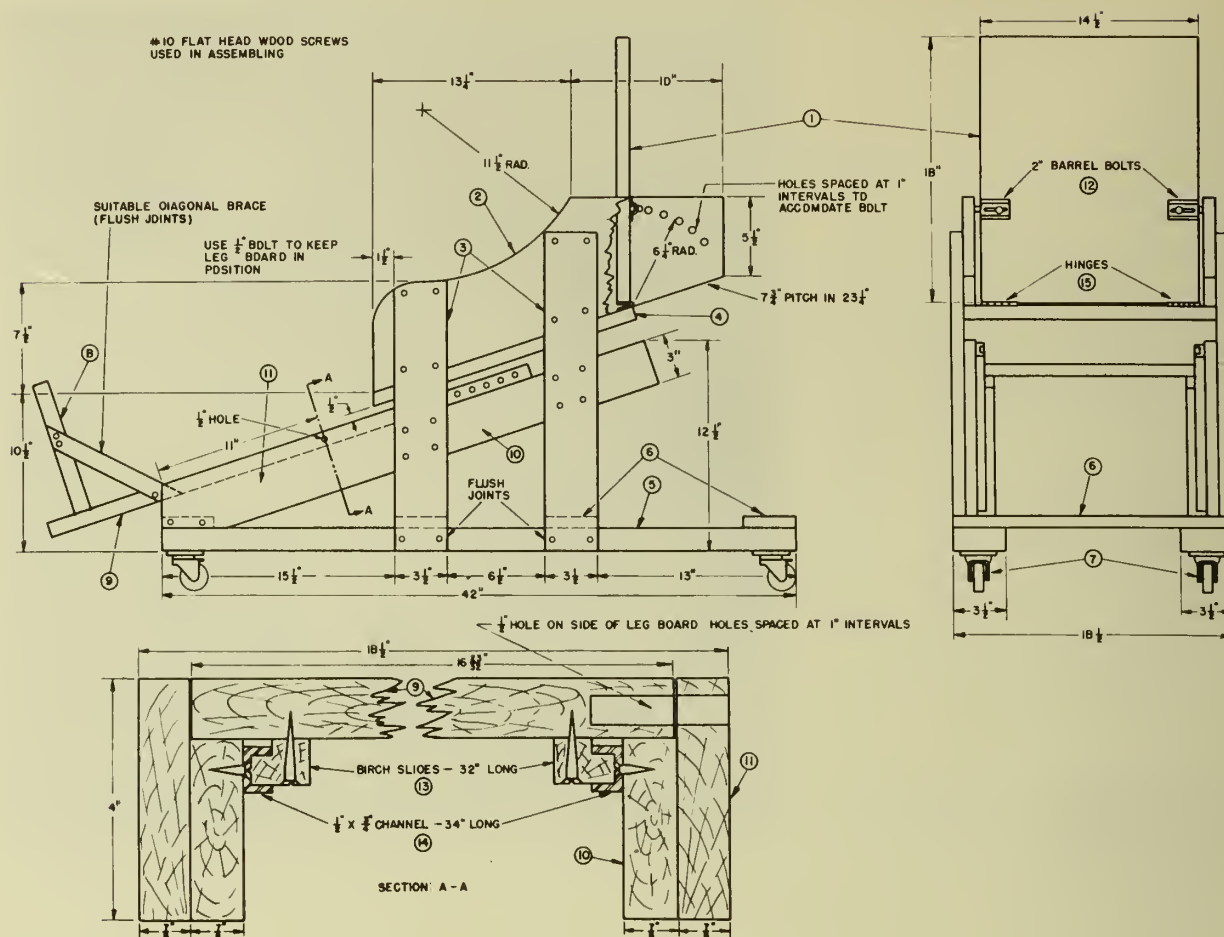
(Refer to *Low Lawn Chair*.)

Caution: This chair should be used on medical prescription only.

Directions: Construct according to diagram, changing dimensions as needed.

No. 19

CHAIR, BRACE, WITH ADJUSTABLE LEG BOARD



BILL OF MATERIALS

Part No.	Name of Part	No. Required	Material	Remarks
1	Back Rest	1	7/8" Pine	14 1/2" x 18"
2	Sides	2	7/8" Pine	13 1/4" x 23 1/4"
3	Side Supports	4	7/8" Pine	2-3 1/2" x 18"; 2-3 1/2" x 21"
4	Seat	1	7/8" Pine	16 3/4" x 18 1/2"
5	Base	2	1 5/8" Pine	3 1/2" x 42"
6	Base Spacers	4	7/8" Pine	3-3 1/2" x 16 3/4"; 1-3 1/2" x 18 1/2"
7	Casters	4	Steel	2" Wheels Base Mounted
8	Footboard	1	7/8" Pine	9" x 12"
9	Leg Board	1	1" Pine	16 23/42" x 32"
10	Leg Board Support	2	7/8" Pine	3" x 34"
11	Leg Board Guide	2	7/8" Pine	4" x 18"
12	Barrel Bolts	2	Steel	2" Long
13	Slides	2	Birch	3/4" x 1" x 32"
14	Channels	2	Steel	1/2" x 3/4" x 34"
15	Hinges	2	Steel	1/8" x 4"

Fresno City Unified School District, Fresno, Calif.

CHAIR, LOW LAWN, WITH ATTACHMENTS



(A) Low lawn chair and tray.

Crippled Children's Hospital School, Memphis, Tenn.

LOW LAWN CHAIR WITH ATTACHMENTS

Occupational Therapy—Special Education

This piece of equipment may be adapted at little cost from a child's wooden, commercially-made lawn chair. It is low to foster independence and to avoid tipping. It is suitable for a cerebral palsied child who has good head control and fair-to-good sitting balance. For the child without good head control, an attachment of high back with head support can be made. (Photo B.)

The commercial chair may be mounted upon a heavy plywood platform with ball bearing casters so the child can be moved from place to place easily. A high metal handle makes pushing easy. (Photo C.)

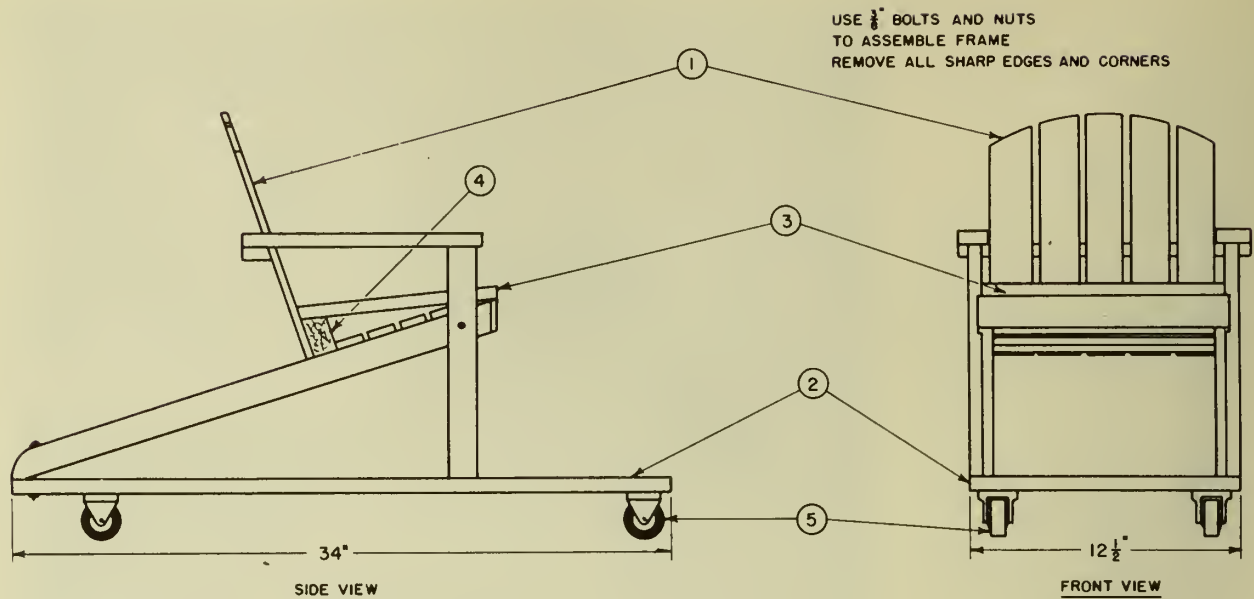
The height of the seat in A and B should allow the child's feet to rest flat on the foot support. The depth of the seat should allow him to sit well back in the chair. In the chair illustrated (above) the back of the seat is raised so the child can sit erect.

The cut-out tray has a railing around it to prevent objects from falling to the floor. It rests upon the arms of the chair and is fastened around the back of the chair with leather or webbing straps. Care should be taken in figuring the height of the chair arms to be sure the tray comes just to the child's elbow when his shoulders are relaxed and his elbows bent at right angles.

The chair illustrated (C) was designed for a child wearing bilateral, long leg braces with the knees locked. The problem (solved here) is to distribute the gravitational pull so that the child's entire body weight does not rest on his heels. The plywood seat, raised at the back, is extended to reach the length of the child's legs and has a footboard at right angles to the bottom edge.

Caution: the attachments for *Low Lawn Chair* should be used on medical prescription only.

CHAIR, LOW LAWN, WITH ATTACHMENTS



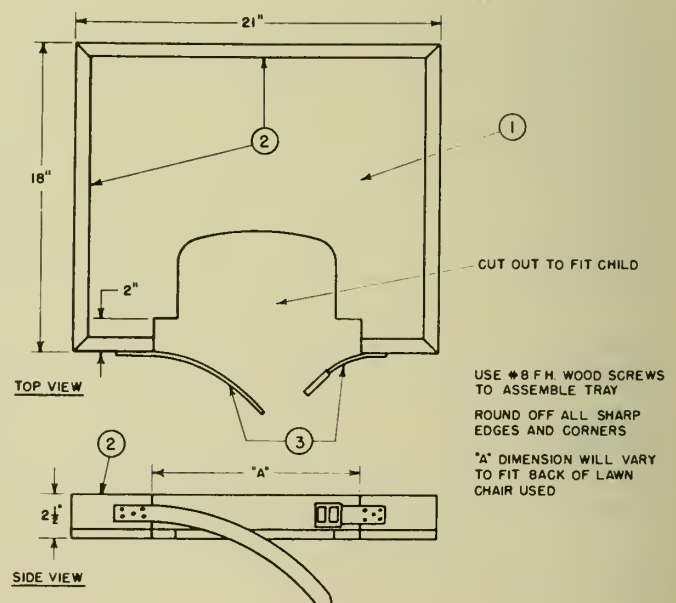
BILL OF MATERIALS—CHAIR

Part No.	Name of Part	No. Required	Material	Remarks
1	Lawn Chair	1	Wood	Low Size
2	Base	1	Wood	$\frac{3}{4}$ " x $12\frac{1}{2}$ " x 34"
3	Seat	1	Wood	$\frac{3}{4}$ " x $10\frac{1}{2}$ " x 12"
4	Seat Block	1	Wood	$\frac{3}{4}$ " x 2" x $10\frac{1}{2}$ "
5	Casters	4	Swivel Type	2" Dia.

Above sizes vary with size of Lawn Chair used.

BILL OF MATERIALS—TRAY

Part No.	Name of Part	No. Required	Material	Remarks
1	Tray	1	Plywood	$\frac{1}{2}$ " x 18" x 21"
2	Sides	5	Wood	1 pc. — $\frac{3}{4}$ " x 2" x 21" 2 pcs. — $\frac{3}{4}$ " x 2" x 18" 2 pcs. — $\frac{3}{4}$ " x 2" x $4\frac{1}{2}$ "
3	Strap-Buckle	1	Canvas Webbing	Length to Suit

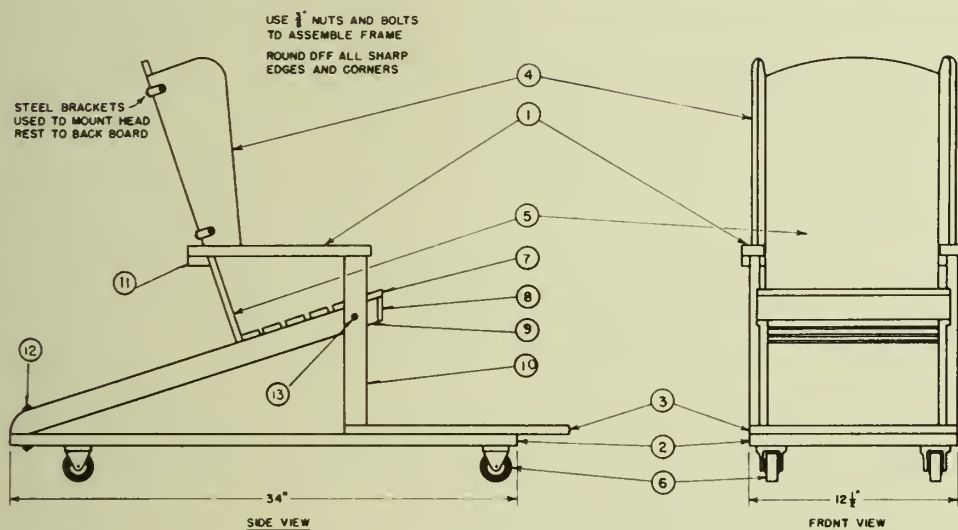


Crippled Children's Hospital School, Memphis, Tenn.

CHAIR, LOW LAWN, WITH ATTACHMENTS



(B) Low lawn chair with high back, head supports and tray.



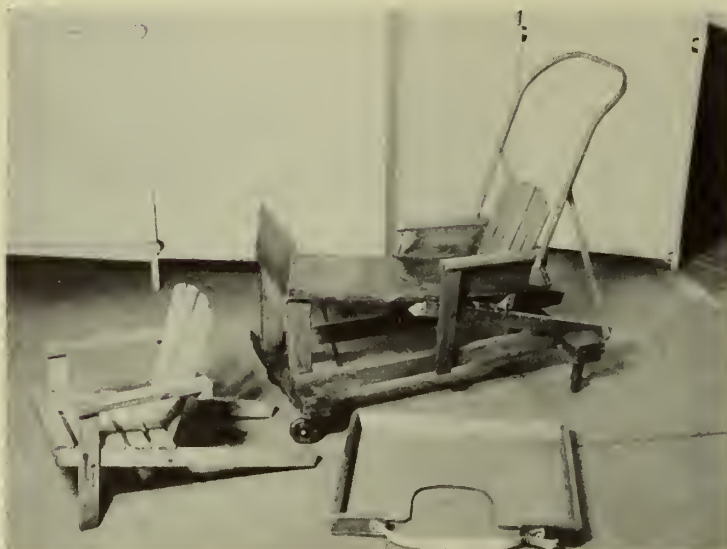
BILL OF MATERIALS

Part No.	Name of Part	No. Required	Material	Remarks
1	Arm Rails	2	Wood	$\frac{3}{4}$ " x $1\frac{3}{4}$ " x $12\frac{1}{2}$ "
2	Base	1	Wood	$\frac{3}{4}$ " x $12\frac{1}{2}$ " x 34"
3	Footboard	1	Wood	$\frac{1}{2}$ " x $12\frac{1}{2}$ " x 15"
4	Head Supports	2	Wood	$\frac{1}{2}$ " x 5" x 13"
5	Backboard	1	Wood	$\frac{1}{2}$ " x 10" x 20"
6	Casters	4	Swivel Type	2" Diameter
7	Seat	5	Wood	$\frac{1}{4}$ " x $1\frac{3}{4}$ " x 11"
8	Front Seat Support	1	Wood	$\frac{1}{4}$ " x $1\frac{3}{4}$ " x 11"
9	Angular Support	2	Wood	$1\frac{1}{2}$ " x $1\frac{3}{4}$ " x 24"
10	Upright Support	2	Wood	$\frac{3}{4}$ " x $1\frac{3}{4}$ " x 12"
11	Back Support	1	Wood	$\frac{3}{4}$ " x $1\frac{3}{4}$ " x 11"
12	$\frac{3}{8}$ " Bolts, Nuts, Washers	2	Steel	3" Long
13	$\frac{3}{8}$ " Bolts, Nuts, Washers	2	Steel	2" Long

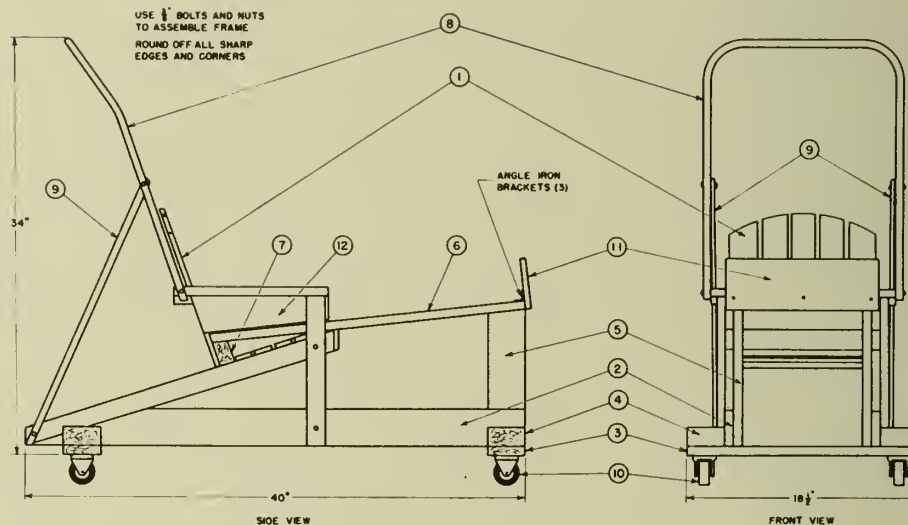
Crippled Children's Hospital School, Memphis, Tenn.

No. 20 (Cont.)

CHAIR, LOW LAWN, WITH ATTACHMENTS



(C) Low lawn chair with leg extension and tray.



BILL OF MATERIALS

Part No.	Name of Part	No. Required	Material	Remarks
1	Lawn Chair	1	Wood	Low Size
2	Baseboards	2	Wood	$\frac{3}{4}$ " x 4" x 40"
3	Cross Supports	2	Wood	$\frac{3}{4}$ " x 3" x 18 $\frac{1}{2}$ "
4	Wheel Blocks	4	Wood	1 $\frac{1}{2}$ " x 3" x 3"
5	Vertical Supports	2	Wood	$\frac{3}{4}$ " x 3" x 11"
6	Extension Board	1	Wood	$\frac{3}{4}$ " x 10 $\frac{1}{2}$ " x 25"
7	Seat Block	1	Wood	$\frac{3}{4}$ " x 10 $\frac{1}{2}$ " x 2"
8	Handle	1	Steel	$\frac{3}{4}$ " Tubing
9	Handle Braces	2	Flat Wire Steel	$\frac{3}{16}$ " x $\frac{3}{4}$ " x 30"
10	Casters	4	Swivel Type	2" Dia.
11	End Board	1	Wood	$\frac{1}{2}$ " x 10 $\frac{1}{2}$ " x 4"
12	Side	2	Wood	$\frac{1}{2}$ " x 3 $\frac{1}{2}$ " x 12"

Above sizes vary with size of Lawn Chair used.

Crippled Children's Hospital School, Memphis, Tenn.

CHAIR, PRE-SCHOOL STANDARD



Develops sitting balance and good posture.

School for Cerebral Palsied Children, Northern California, Redwood City, Calif.

PRE-SCHOOL STANDARD CHAIR

General Equipment

When a child has developed sufficient sitting balance so that he feels secure without arm supports, he is ready for an armless chair. It should not be used if the child shows tension in maintaining balance. Whenever possible, a standard armless chair should be used with a cut-out table.

In selecting an armless chair to meet the needs of a child the following requirements should be kept in mind: the chair back should give good support to the middle portion of the child's back; the seat should be one inch lower at the back so he may slide back on the seat and be able to remain there; the seat should be broad and deep enough to give complete support to the thighs; the front edge of the chair should be rounded off so circulation in the legs is not restricted under the knees; the seat height should permit him to

place his feet flat on the floor. If he is unable to do so, a footrest platform may be provided.

The armless chair shown in the picture meets these requirements. In addition, the seat of the chair is molded in a form which may help the child to sit comfortably and properly.

Measurements and Directions: These chairs come in three sizes: 10 inch seat height, 12 inch seat height, and 14 inch seat height; overall height 10 inch chair, 20½ inches; 12 inch chair, 22½ inches; 14 inch chair, 24½ inches; seat 13¼ inches front by 12 inches deep conforming to accepted standards for posture chairs.

A nursery school child usually takes a 12 inch seat height and occasionally a 10 inch or a 14 inch seat height.

No. 21

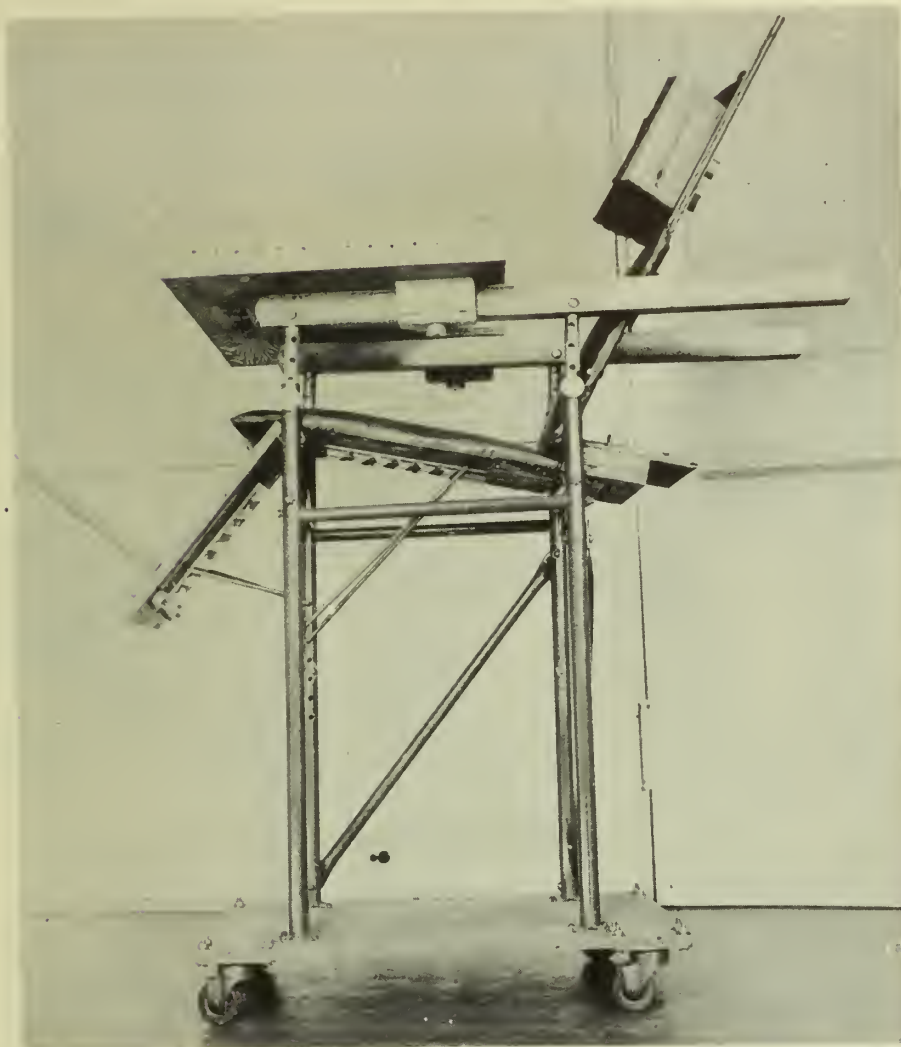
CEREBRAL PALSY EQUIPMENT

CHAIR, PRE-SCHOOL STANDARD



Potomac Engineering Corporation, Chicago, Ill.

CHAIR, RELAXATION, ADJUSTABLE



Chair is adjustable in many respects.

Aidmore Crippled Children's Convalescent Hospital, Atlanta, Ga.

ADJUSTABLE RELAXATION CHAIR

Occupational Therapy

This chair is a combination of metal and plywood. The frame is made of metal pipe and is mounted on a heavy plywood base which has four large casters. The footrest and tray are made of plywood—the seat, back and head supports are made of plywood and covered with plastic fabric which is easy to clean.

The chair is relatively high so that it can be drawn up to a regulation height table for group activities. It is especially practical in the dining room.

Among the adjustments possible are the following:

- (1) height of chair arms, which determines the height of the tray.
- (2) angle of seat to back.
- (3) angle of footrest to seat.
- (4) total tilt of seat and back combined.
- (5) height of footrest.
- (6) height of head supports.
- (7) depth of seat.

No. 22

CHAIR, RELAXATION, ADJUSTABLE

[illegible]

V-CUTOUT IN ARMS FOR
ANGULAR ADJUSTMENT

SIX $\frac{1}{8}$ " HOLES IN PART 4 -
FIRST HOLE $\frac{1}{2}$ " FROM TOP
- SECOND HOLE $1\frac{1}{2}$ " FROM
TOP - REMAINDERS SPACED
AT 1" INTERVALS

PAD 12" LONG TACKED
TO SEAT

(9)

RIGHT FRONT LEG CUT AWAY
TO SHOW HOLES FOR PARTS
18 AND 19 WHICH ARE 5/16"
DIA. AND SPACED 1" APART.
LOCATED ON INSIDE OF
FRONT LEGS ONLY.

INSIDE OF HEAD REST,
LOWER BACK AND
DOTTED AREA PADDED
AND COVERED WITH
LEATHERETTE

BACK OF PART IS TO BE
CUT AT A 15° ANGLE

FIVE 1" SLOTS, 8" LONG
STARTED 1 1/2" FROM TOP
AND SPACED AT 1 1/2"
INTERVALS

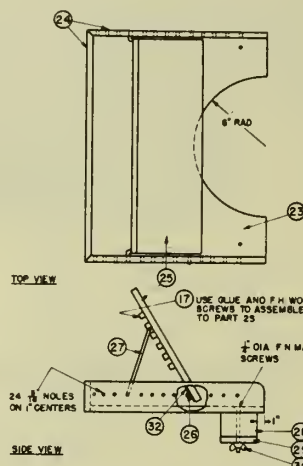
**PART 4 BOLTED TO ARMS
WITH 1/4" BOLT AND NUT.
(RECESS HEAD AND NUT
INTO ARMS)**

TWO $\frac{1}{8}$ " SLOTS - 9" LONG
SPACED $8\frac{1}{2}$ " APART -
STARTED 1" FROM
BOTTOM IN PART 9



LEGS ARE SLOTTED 1" - TABS ARE THEN FOLDED BACK PERPENDICULAR TO LEG AND BOLTED TO BASE

Part No.	Name of Part	No. Required	Material	Remarks
1	Bese	1	Plywood	1" x 20" x 22"
2	Legs	4	Steel Tubing	¾" Dia. — 26" Long
3	Arms	2	Wood	2" x 2" x 20"
4	Arm Adjusters	4	Steel Tubing	½" Dia. — 6" Long
5	Leg Breces	4	Steel Tubing	½" Dia.—12½" Long
6	Diagonal Braces	2	Steel Tubing	½" Dia.—24" Long
7	Brace Rods	4	Steel Rod	¼" Dia.—15" Long
8	Seet	1	Plywood	½" x 12" x 17"
9	Leg Rest	1	Plywood	½" x 12" x 12"
10	Footrest	1	Plywood	½" x 8" x 12"
11	Footrest Support	1	Wood	1" x 2" x 12"
12	Back Rest	1	Plywood	½" x 11" x 24"
13	Back Rest Adjuster	1	Plywood	½" x 6" x 11"
14	Space Block	1	Plywood	¾" x 4" x 12"
15	Back Rest Adjusting Rod	1	Steel	¼" Diameter
16	Headrest	2	Wood	2" x 4" x 6"
17	Strips Adjusting	13	Wood	½" x ½" x 6"
18	Leg Rest Adjusting Rod	1	Steel	¼" Diameter
19	Seat Adjusting Rod	1	Steel	¼" Diameter
20	Seat Clamps	2	Steel	½" Tubing Clamps
21	Hinges	2	Steel	12" Long
22	Cesters	4	Flange Type	1⅝" Diameter
23	Tray	1	Plywood	½" x 19" x 18¼"
24	Tray Sides	3 pcs.	Wood	1 piece— ½" x 2½" x 20" 2 Pieces— ½" x 2½" x 19¼"

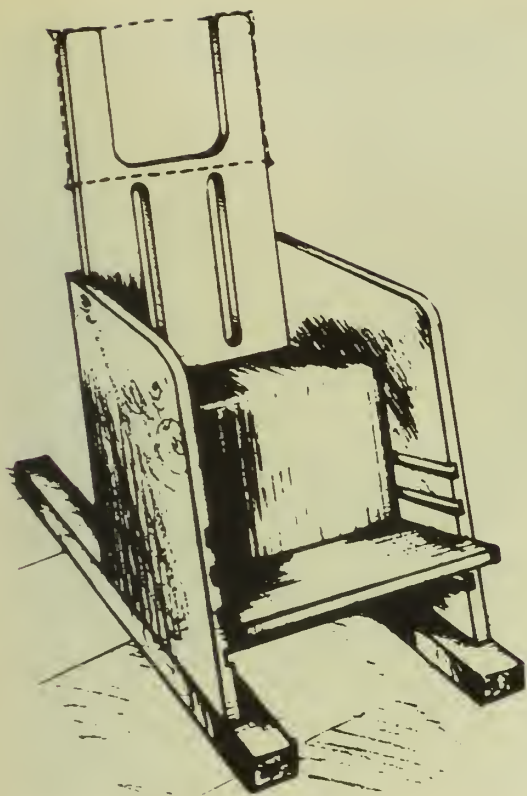


REMOVE ALL SHARP EDGES
AND CORNERS
A' DIMENSION LOCATED FROM
ARMS OF CHAIR
USE GLUE AND #8 F.H. WOOD
SCREWS TO ASSEMBLE SIDES
TO TRAY.

Part No.	Name of Part	No. Required	Material	Remarks
25	Reading Board	1	Plywood	$\frac{1}{2}$ " x 12" x 18 $\frac{1}{2}$ "
26	Reading Board Rod	1	Steel	$\frac{1}{4}$ " Dia., 19 $\frac{3}{4}$ " Long
27	Reading Board Adjusting Rod	1	Steel	$\frac{1}{4}$ " Dia., Length to Suit
28	Trey Spacer Blocks	2	Wood	2" x 2" x 3"
29	Tray Clamps	2	Plywood	$\frac{1}{2}$ " x 2 $\frac{1}{2}$ " x 3"
30	Wing Nuts and Washers	12	Steel	For $\frac{1}{4}$ " Bolts
31	Castle Nuts	12	Steel	For $\frac{1}{4}$ " Bolts
32	Reading Board Clamps	2	Steel	$\frac{1}{16}$ " Thick, $\frac{3}{4}$ " Wide

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CHAIR, RELAXATION, WITH ADJUSTABLE FOOTREST



Cerebral Palsy Association of the Rochester Area, Inc., Rochester, N. Y.

A

- (A) Footrest slides into grooves in the side pieces of chair.
- (B) Slotted footrest fits on brackets and is locked in by auxiliary side piece.



Cerebral Palsy Treatment Center, Franklin County Society for Crippled Children, Columbus, Ohio

B

RELAXATION CHAIR WITH ADJUSTABLE FOOTREST

Occupational Therapy—Speech

The solidly built relaxation chair (A) may be used for the severely handicapped cerebral palsied child.

The heavy runners extending forward and back give it stability. The solid side pieces attached to runners should be just high enough to support the child's forearms when his shoulders are relaxed. The seat should be narrow enough for the side pieces to give firm support at the child's hips. Two vertical slots in the back allow space for supportive straps to go around the child's

waist. A canvas headrest made like a pillowcase may be slipped over the uprights extending from the back of the seat.

Four grooves spaced at two-inch intervals allow for insertion of a footrest, giving four adjustments.

The illustration (B) shows a locking device to keep footrest securely in place.

Here, instead of grooves, four pairs of brackets are screwed to the inside of the lower part of the chair, and the footrest is placed on one pair

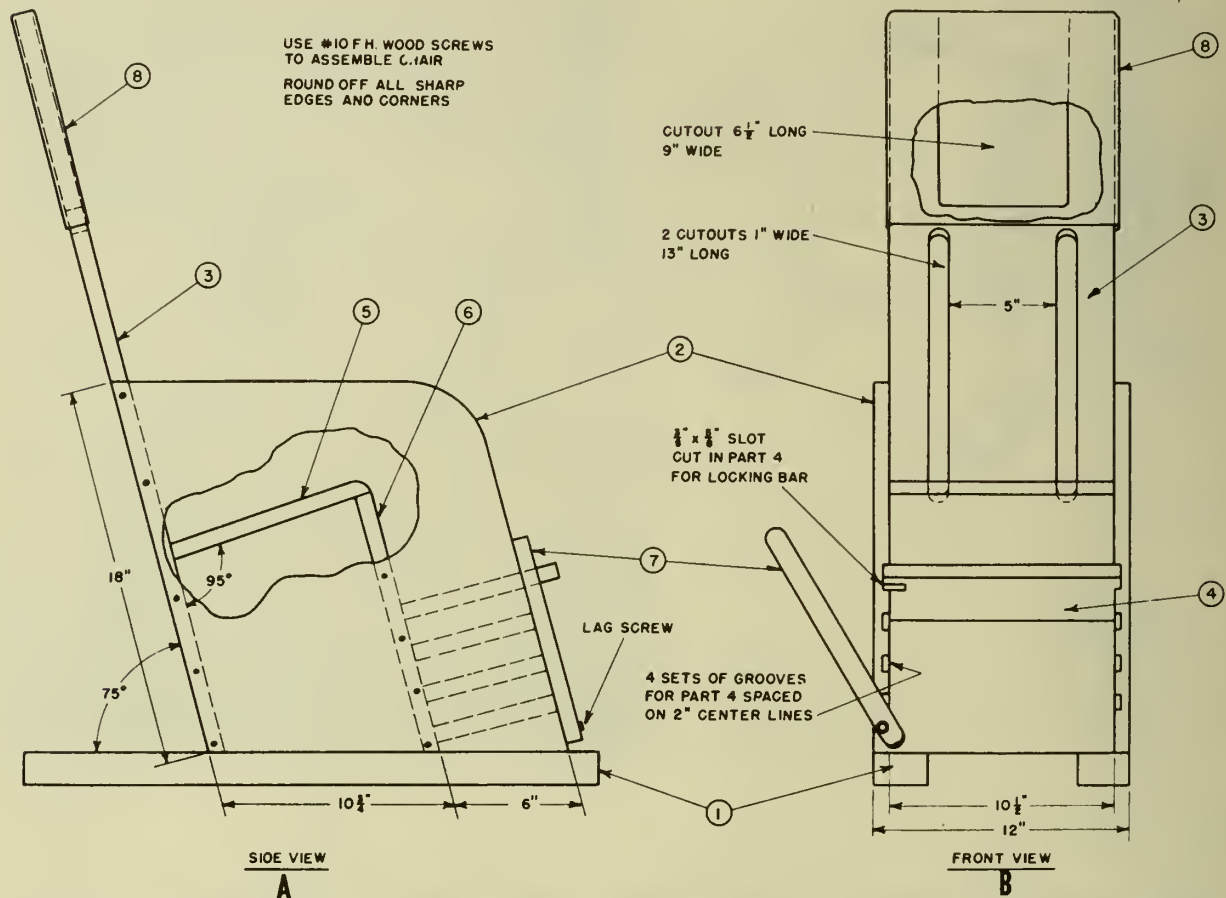
No. 23

CHAIR, RELAXATION, WITH ADJUSTABLE FOOTREST

of these. An auxiliary piece is attached to the right side of the lower part of the chair, and this fits into a slot on the footrest, serving as a "key" to keep it from slipping out if the child hyperextends his back, kicks or pushes with his feet.

Any chair, which enables a child to sit with

the optimum of comfort and relaxation within the limits of what is required for his training program, offers a situation which is favorable for speech training. The speech therapists should get the advice of other therapists regarding the equipment and the use of equipment which will help to achieve postural adjustments in which speech training can be given most effectively.



Cerebral Palsy Association of the Rochester Area, Inc., Rochester, N. Y.

Cerebral Palsy Treatment Center, Franklin County Society for Crippled Children,
Columbus, Ohio

BILL OF MATERIALS

Part No.	Name of Part	No. Required	Materials	Remarks
1	Bases	2	Wood	1 $\frac{1}{2}$ " x 2 $\frac{1}{2}$ " x 27"
2	Sides	2	Wood	$\frac{3}{4}$ " x 16 $\frac{3}{4}$ " x 18"
3	Back	1	Wood	$\frac{3}{4}$ " x 10 $\frac{1}{2}$ " x 36"
4	Footboard	1	Wood	$\frac{3}{4}$ " x 7 $\frac{1}{2}$ " x 11 $\frac{1}{4}$ "
5	Seat	1	Wood	$\frac{3}{4}$ " x 10 $\frac{1}{2}$ " x 10 $\frac{1}{2}$ "
6	Seat Overlap	1	Wood	$\frac{3}{4}$ " x 10 $\frac{1}{2}$ " x 12 $\frac{3}{4}$ "
7	Locking Bar	1	Wood	$\frac{3}{4}$ " x 1" x 12"
8	Headrest	1	Duck Canvas Preshrunk	

CHAIR, RELAXATION, WITH STAND



A

Chair can be removed from stand, allowing two positions of adjustment.



B

Children's Rehabilitation Institute, Cockeysville, Md.

RELAXATION CHAIR WITH STAND

Occupational Therapy—Special Education

This chair is useful for the child with poor head control and poor sitting balance. When the chair is used alone without the stand (A), the child is in a semi-sitting position. As his balance and control improve, the chair can be put on its stand (B), bringing it to a more nearly vertical position.

The two upright side pieces extend beyond the top of the back to provide a headrest for the child who cannot hold his head up continuously. The headrest may be of heavy washable material made like a pillowcase slipped over the uprights, and removable for laundering (A), or it may be a single piece of washable plastic material, securely tacked to the uprights with upholstery tacks and remaining there permanently (B).

To hold the child securely in the chair, shoulder and pelvic bands from an old brace may be bolted

to the back of the chair and used as removable restrainers.

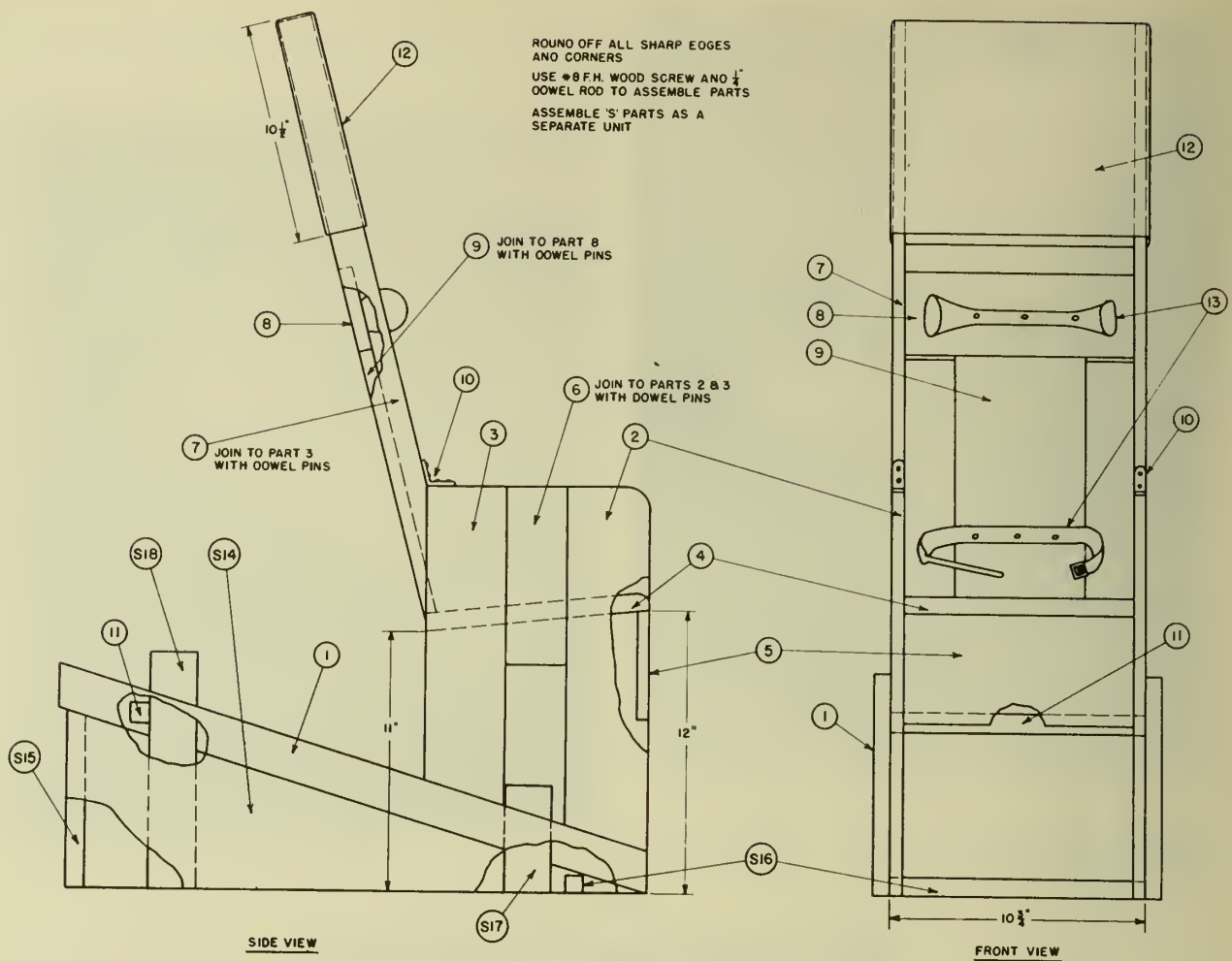
The low sides provide support through the hips but do not interfere with the use of the arms and hands for manipulation of toys and other objects.

Runners extending toward the back provide stability and prevent tipping.

Particular attention should be paid to the following:

The child's head should be supported in the center of the headrest. If shoulder and pelvic bands are used, they should fit the child and be applied so as not to give pressure interfering with breathing or use of arms. The child should fit snugly between the side pieces. If long braces are worn, the child should be measured with braces on.

CHAIR, RELAXATION, WITH STAND



BILL OF MATERIALS

Part No.	Name of Part	No. Required	Material	Remarks
1	Base Runners	2	Wood	3/4" x 1 3/4" x 26 1/4"
2	Seat Front Support	2	Wood	1/2" x 3 1/2" x 17 1/4"
3	Seat Rear Support	2	Wood	1/2" x 3 1/2" x 16 1/4"
4	Seat	1	Wood	3/4" x 9 3/4" x 10 5/8"
5	Seat Overlap	1	Wood	1/2" x 4 5/8" x 9 3/4"
6	Seat Sides	2	Wood	1/2" x 2 1/2" x 7 1/2"
7	Back Supports	2	Wood	1/2" x 1 1/2" x 27 1/4"
8	Back	1	Wood	1/2" x 3 5/8" x 9 3/4"
9	Lower Back	1	Wood	1/2" x 5 1/2" x 11 1/2"
10	Brackets	2	Steel	
11	Spacer	1	Wood	3/4" x 3/4" x 10 3/4"
12	Headrest	1	Duck Canvas, (Preshrunk)	
13	Restrainers	1 Set	Shoulder & Pelvic Band from Old Brace	
S14	Stand Sides	2	Wood	1/2" x 7 1/2" x 24 3/4"
S15	End	1	Wood	3/4" x 7 1/2" x 12 1/4"
S16	Spacer	1	Wood	3/4" x 3/4" x 10 3/4"
S17	Position Blocks	2	Wood	1/2" x 2" x 4 1/2"
S18	Large Position Blocks	2	Wood	1/2" x 2" x 10"

Children's Rehabilitation Institute, Cockeysville, Md.

CHAIR AND STANDING TABLE, COMBINATION



(Above) Table adjusted for sitting position.
(Right) Table adjusted for standing.



Pennsylvania Society for Crippled Children and Adults, Inc., Harrisburg, Pa.

COMBINATION CHAIR AND STANDING TABLE

Special Education—Occupational Therapy—Physical Therapy

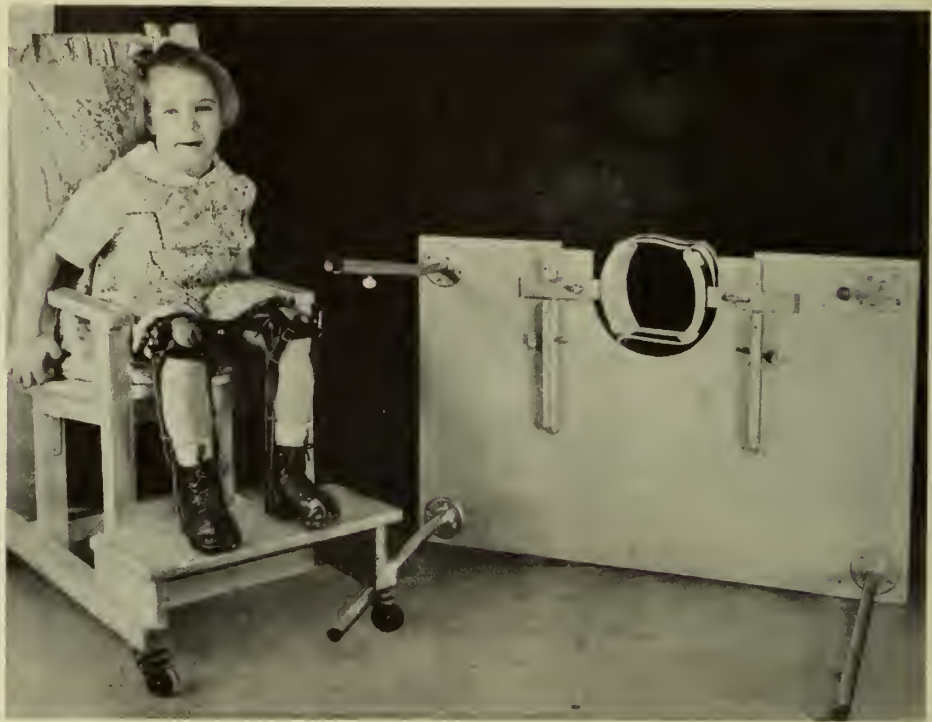
It is desirable to use combination equipment whenever possible to save extra construction and storage space. This combination chair and standing table is designed for home use. Each piece is constructed so that it may be used alone or in combination. The chair is comfortable, has a foot support and can be moved easily from place to place. The table, adjusted to fit the height of the chair, may be used for sitting activities such as feeding and dressing training, special

education and play. In combination, the cut-out table gives support to the child with insufficient balance to sit unsupported in the chair. With adjustment of the legs and insertion of removable brace (see diagram), the table may be used for standing. (Refer to *Tables* and *Chairs* for general comments on indications and cautions.) Letters "M", "N", etc. on diagram refer to *Body Measurements*.

No. 25

CEREBRAL PALSY EQUIPMENT

CHAIR AND STANDING TABLE, COMBINATION

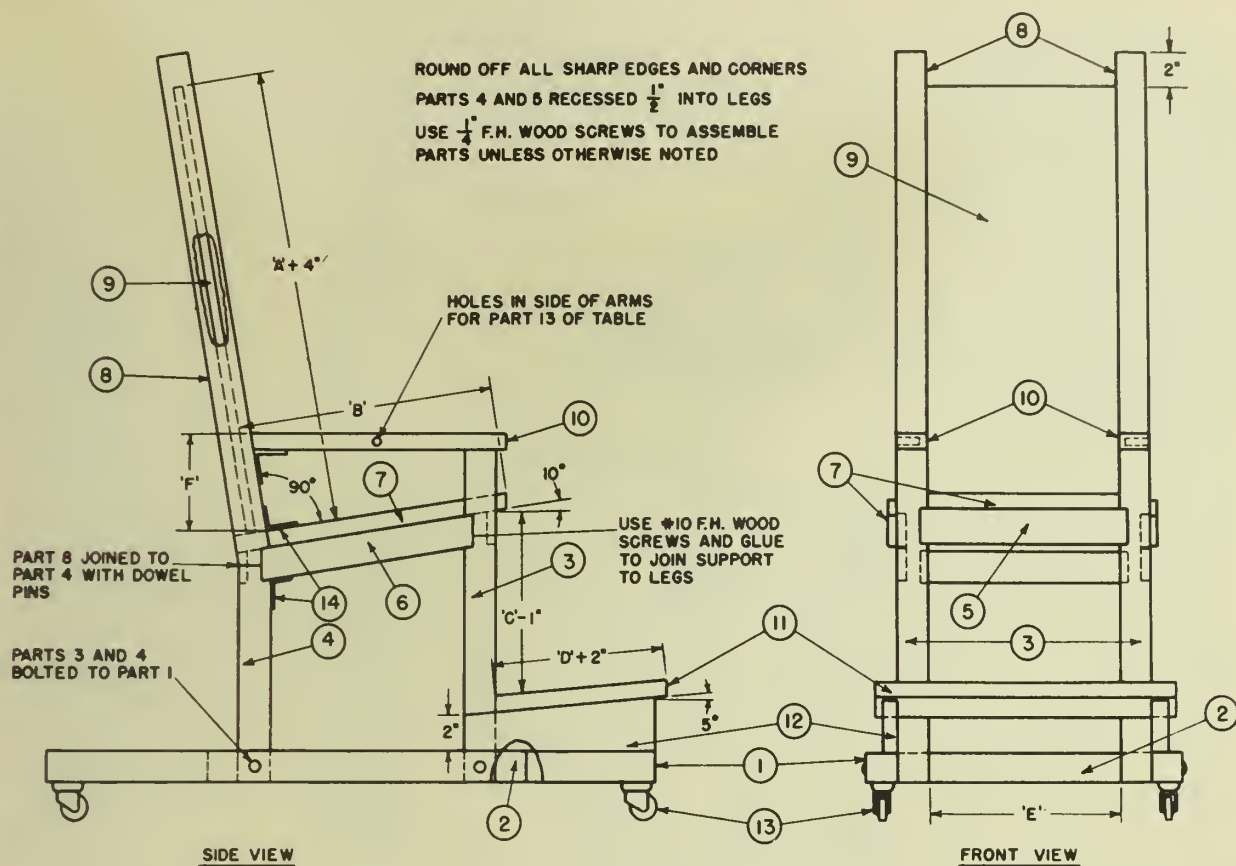


Removable brace inserted at cut-out for standing use.



Pennsylvania Society for Crippled Children and Adults, Inc., Harrisburg, Pa.

CHAIR AND STANDING TABLE, COMBINATION

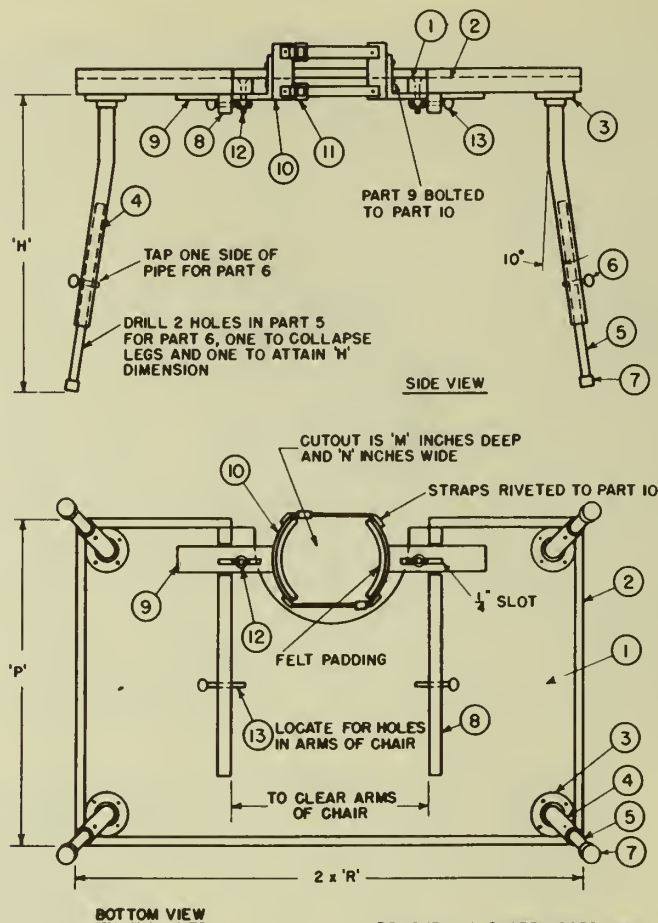


BILL OF MATERIALS—CHAIR

Part No.	Name of Part	No. Required	Material	Remarks
1	Bases	2	Wood	2" x 2" x (16" + B + D)
2	Base Spacers	2	Wood	2" x 2" x (E + 4")
3	Front Legs	2	Wood	2" x 2"
4	Rear Legs	2	Wood	2" x 2"
5	Seat Supports	2	Wood	1" x 2" x (E + 1")
6	Side Seat Supports	2	Wood	1" x 2" x (B - 2 1/2")
7	Seat	1	Wood	1" x (B + 1 1/4") x (E + 5")
8	Back Supports	2	Wood	2" x 2" x (A + 7")
9	Back	1	Wood	1/2" x E x (A + 4")
10	Arms	2	Wood	1" x 2"
11	Footrest	1	Wood	1 x (D + 2") x (E + 7")
12	Footrest Supports	2	Wood	1" Thick
13	Casters	4	1 5/8" Dia.	Swivel Type
14	Clips	6	Steel	1/8" Thick, 1" Wide

Pennsylvania Society for Crippled Children and Adults, Inc., Harrisburg, Pa.

CHAIR AND STANDING TABLE, COMBINATION



REMOVE ALL SHARP EDGES AND CORNERS
ASSEMBLE PARTS WITH #10 F.H. WOOD SCREWS UNLESS OTHERWISE NOTED

BILL OF MATERIALS—TABLE

Part No.	Name of Part	No. Required	Material	Remarks
1	Table Top	1	Wood	$\frac{3}{4}$ " x P x 2R
2	Moulding	5 pcs.	Wood	$\frac{1}{2}$ " x $1\frac{1}{2}$ "
3	Leg Supports	4	Steel	$\frac{3}{4}$ " Pipe Flange
4	Stationary Legs	4	$\frac{3}{4}$ " Pipe	(H—4") Long
5	Adjustable Legs	4	$\frac{1}{2}$ " Pipe	(H—4") Long
6	Thumb Screws	4	Steel	$\frac{1}{4}$ " Dia.
7	Crutch Tips	4	Rubber	To Fit $\frac{1}{2}$ " Pipe
8	Chair Guides	2	Wood	$\frac{3}{4}$ " x 1" x 16"
9	Brace Supports	2	Steel	$\frac{1}{4}$ " Thick— $\frac{1}{2}$ " Wide
10	Brace	1	Steel	$\frac{1}{16}$ " Thick—S Wide
11	Web Straps and Buckles	4	Canvas	
12	Wing Nuts and F. H. Bolts	2	Steel	$\frac{1}{4}$ " Dia.
13	Chair Locking Pins	2	Steel	$\frac{1}{4}$ " Dia., Thumb Screw

Pennsylvania Society for Crippled Children and Adults, Inc., Harrisburg, Pa.

CHAIR FOOT SUPPORT



Simple, adjustable and removable foot support.

Cerebral Palsy Round Robin Digest

CHAIR FOOT SUPPORT

Physical Therapy—Occupational Therapy—Special Education—Speech

Proper foot support is essential to comfort and prevention of deformity at the ankle. In a spastic patient undue stretching of a weakened anterior tibial plus any exaggeration or encouragement of an equinus position of the foot should be avoided.

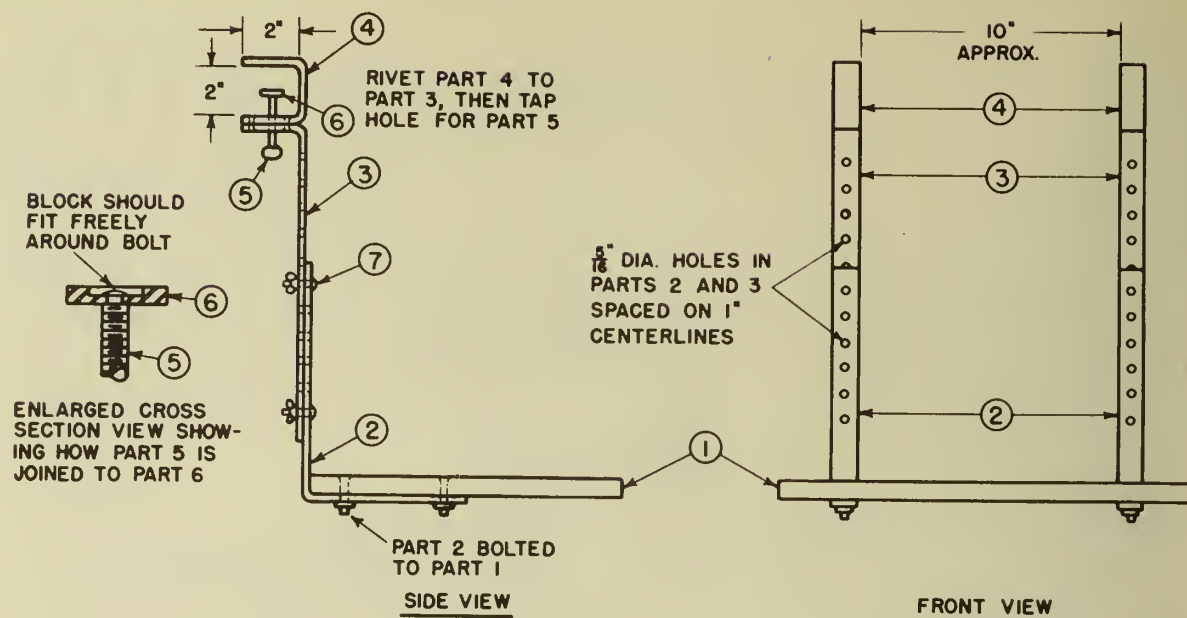
Mildly involved athetoids may relax better

when pushing feet against something solid. A simple footrest for the patient with or without braces is handy equipment.

This design features adjustment which makes it suitable for use with patients of varying leg lengths. The clamps provide for its use on different chairs.

No. 26

CHAIR FOOT SUPPORT



BILL OF MATERIALS

Part No.	Name of Part	No. Required	Material	Remarks
1	Footboard	1	Plywood	3/4" x 12" x 16"
2	Footboard Brace	2	Flat Wire Steel	3/16" x 1" x 12"
3	Adjusting Bar	2	Flat Wire Steel	3/16" x 1" x 12"
4	Clamp	2	Flat Wire Steel	3/16" Thick—1" Wide
5	Thumb Screws	2	Steel	1/4" Dia.
6	Thumb Screws Blocks	2	Steel	3/16" Thick—1" Dia.
7	Wing Nut & Bolt	4 Sets	Steel	1/4" Dia.

Cerebral Palsy Round Robin Digest

CHAIR STABILIZER AND FOOTSTOOL, COMBINATION



Improved stools for standard chairs.

Fresno City Unified School District, Fresno, Calif.

COMBINATION CHAIR STABILIZER AND FOOTSTOOL

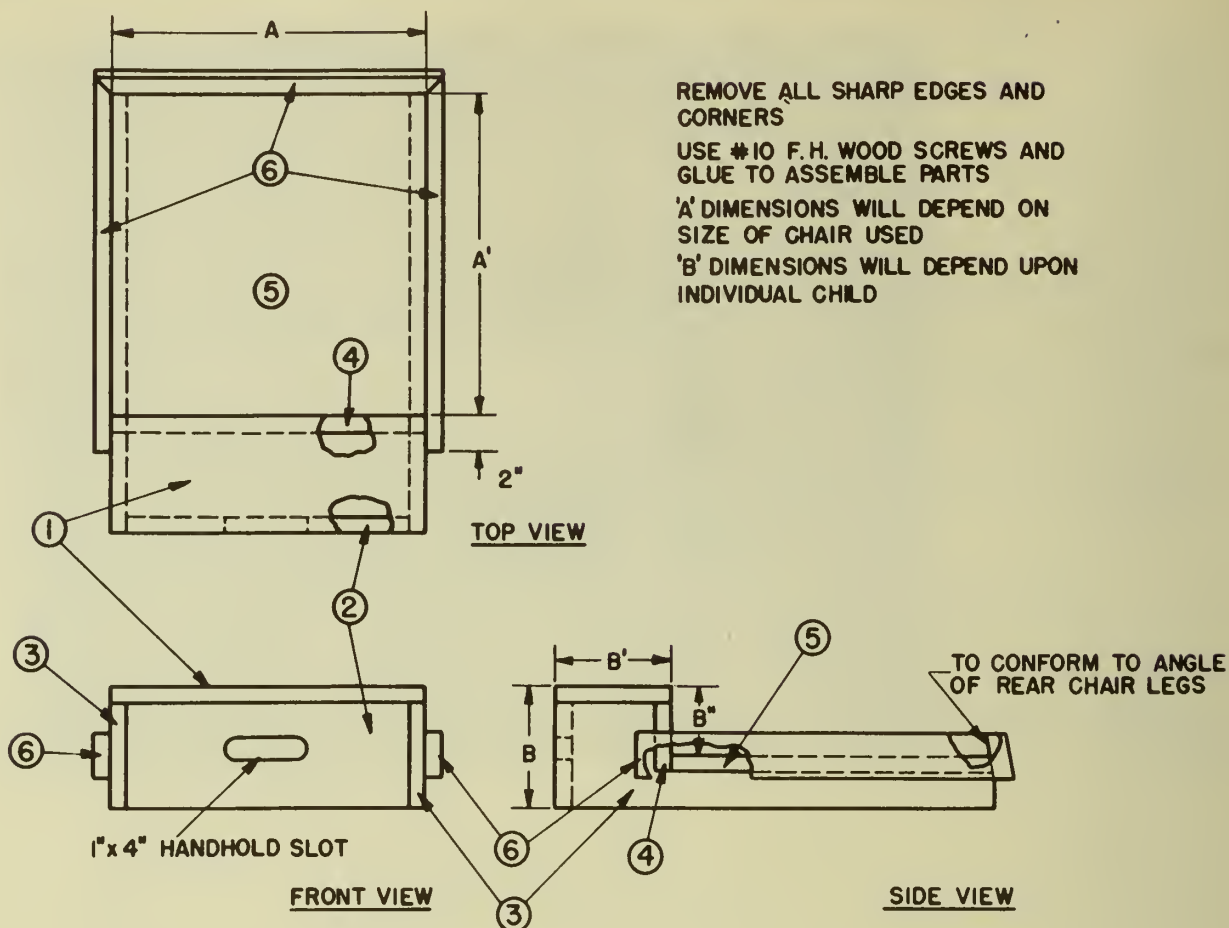
Occupational Therapy—Physical Therapy—Special Education

Spastic and athetoid feet have a tendency to push the foot support away from the chair. This piece of equipment eliminates any such possibility by providing a combination footstool and chair anchorage. The chair fits into a shallow box constructed with the footstool. The footstools should

be made to individual measurements, depending upon the size of the patient and the height of the chair seat. Children with severe involuntary motions will need additional supports to hold the feet in place. (Refer to *Footstools*.)

No. 27

CHAIR STABILIZER AND FOOTSTOOL, COMBINATION

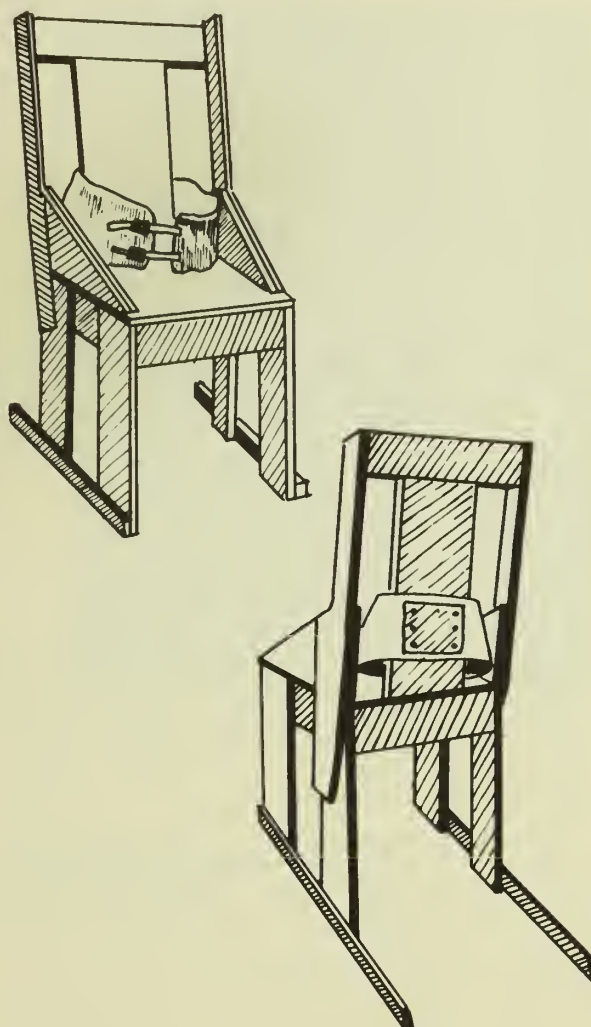


BILL OF MATERIALS

Part No.	Name of Part	No. Required	Material	Remarks
1	Footrest	1	Wood	3/4" Thick
2	Front	1	Wood	3/4" Thick
3	Sides	2	Wood	3/4" Thick
4	Back	1	Wood	3/4" Thick
5	Base	1	Wood	3/4" Thick
6	Guards	3	Wood	3/4" Thick, 2" Wide Length to suit

Fresno City Unified School District, Fresno, Calif.

CHAIR WITH RUNNERS



Runners prevent a chair from tipping.

Children's Rehabilitation Institute, Cockeysville, Md.

CHAIR WITH RUNNERS

Occupational Therapy—Special Education

This chair has two special features: the runners and the solid sides. It is particularly useful for the cerebral palsied child with good head control and only fair sitting balance.

To determine the correct width for the seat of the chair, measure the child when seated. (Refer to *Body Measurements*.) Elbows should come outside the side pieces.

If the child wears long braces with a pelvic band, set in abduction, determine the width of

the chair by measuring with the braces on.

The angle of the chair legs to the seat is 90 degrees. The angle of the seat to the back is 100 degrees.

The runners not only make the chair steady when the child is seated, but they may be used as a glider for walking support.

The back is made with one upright central panel allowing space on each side for straps or restrainers to hold the child securely. In order

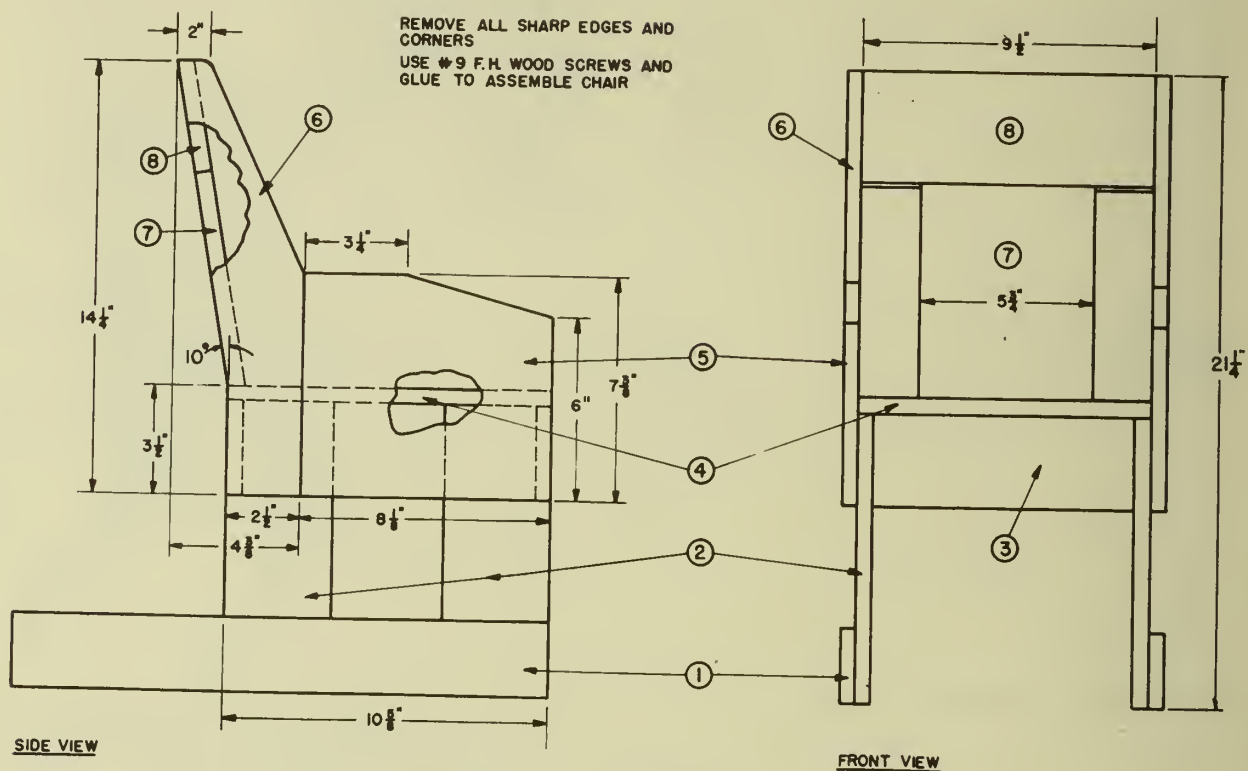
CHAIR WITH RUNNERS

to have a restrainer always at hand when needed, one may be screwed to the upright back of the chair. (Lower drawing.) If this restrainer is made of leather, using two buckles and two rather long tongues, it will accommodate children with varying waist measurements. (Upper drawing.) A pelvic band from an old brace may be screwed to the upright back of the chair to serve as a

restrainer. (Not illustrated.)

Directions: Construct chair according to diagram, changing the dimensions to fit the child or children who will use it.

Apply only best quality paint or varnish, as the chair will have to stand hard usage and washing.



BILL OF MATERIALS				
Part No.	Name of Part	No. Required	Material	Remarks
1	Runners	2	Wood	1/2" x 2 1/2" x 17 1/2"
2	Legs	4	Wood	1/2" x 3 1/2" x 9 1/2"
3	Spacers	2	Wood	1/2" x 3" x 8 1/2"
4	Seat	1	Wood	1/2" x 9 1/2" x 10 5/8"
5	Arm Rests	2	Wood	1/2" x 7 3/8" x 8 1/8"
6	Sides	2	Wood	1/2" x 4 3/8" x 14 1/4"
7	Back Rest	1	Wood	1/2" x 5 3/4" x 7"
8	Top Back	1	Wood	1/2" x 3 3/4" x 9 1/2"

Children's Rehabilitation Institute, Cackeysville, Md.

CHAIR WITH TRAY AND HEAD SUPPORT



Low-placed head support reduces leverage when child pushes against it in hyperextension.

Children's Rehabilitation Institute, Cockeysville, Md.

CHAIR WITH TRAY AND HEAD SUPPORT

Occupational Therapy—Special Education

The chair pictured above is designed for the cerebral palsied child with poor sitting balance and poor head control, particularly the child who also has a tendency to an extensor thrust in the hips. The headrest is placed low at the base of the head to prevent involuntary hyperextension of the trunk.

The chair is designed for the individual child and should hold him securely. Two upright pieces form the back. Straps of the restrainer may be tied around the upright pieces. A one-inch space between the back and the seat of the chair allows for better cleaning. (Note: Diagram does not provide for this one-inch space.)

The head support is a T-shaped piece of metal bolted to the back of the chair, bent forward and curved around to fit the child's head. It should be padded and covered with leather.

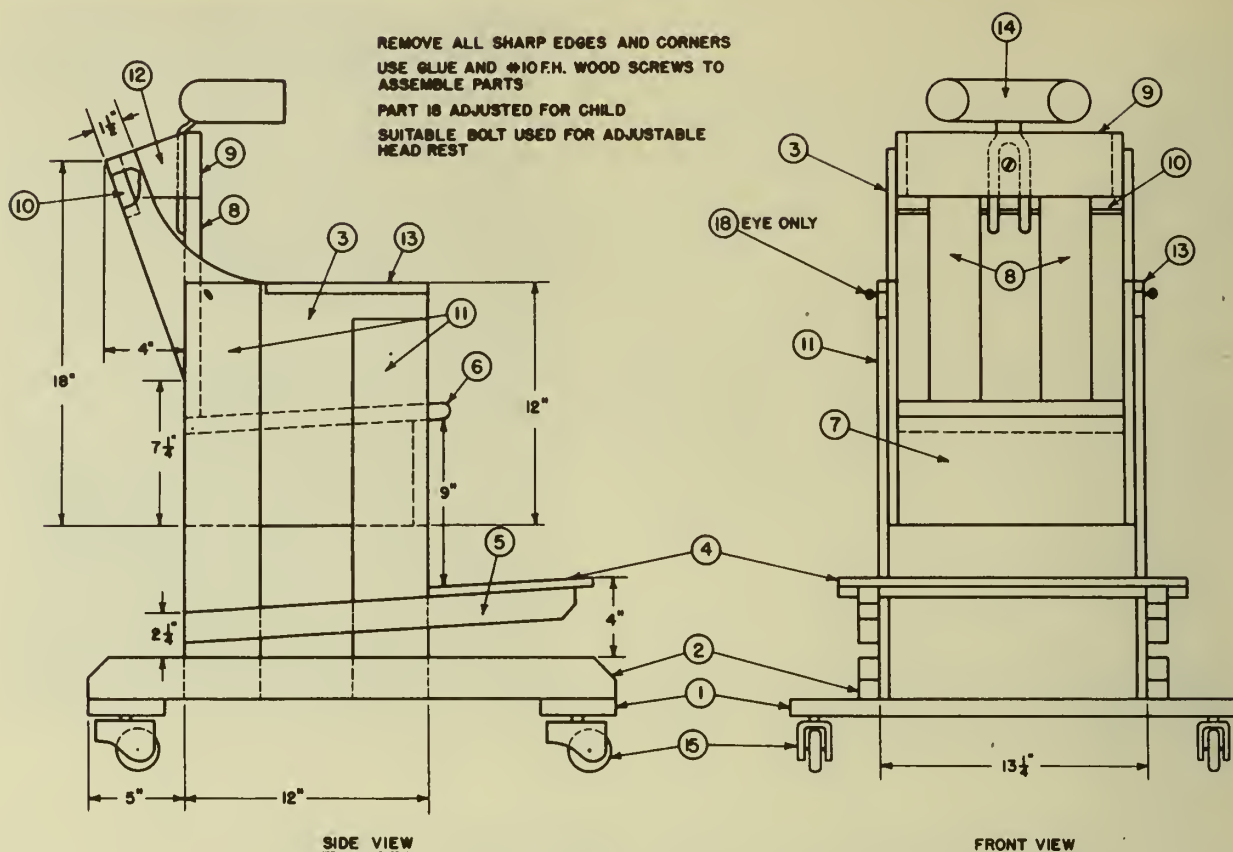
The tray is made with tracks on the underneath side which fit over the lip on the arms of the chair. After being placed in position, it is hooked to the chair to prevent slipping.

A footrest allows the child to keep his feet flat and in good position. Casters on the wide base make it easy to move the chair from place to place.

Caution: Head support must be medically prescribed and fitted under medical supervision.

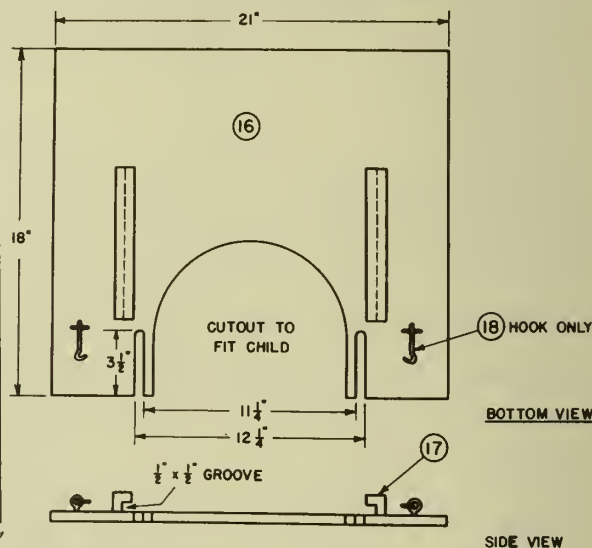
No. 29

CHAIR WITH TRAY AND HEAD SUPPORT



BILL OF MATERIALS

Part No.	Name of Part	No. Required	Material	Remarks
1	Base	2	Wood	3/4" x 4" x 22"
2	Side Supports	2	Wood	1" x 2" x 26"
3	Sides	2	Wood	1/2" x 19" x 16"
4	Footrest	1	Wood	1/2" x 8" x 17"
5	Footrest Supports	2	Wood	1" x 2" x 19 1/4"
6	Seat	1	Wood	3/4" x 11 1/4" x 13"
7	Seat Overlap	1	Wood	3/4" x 5" x 11 1/4"
8	Vertical Back Rest	2	Wood	3/4" x 2 1/2" x 11"
9	Back	1	Wood	3/4" x 3" x 11 1/4"
10	Upper Sides Spacer	1	Wood	3/4" x 3" x 11 1/4"
11	Vertical Sides Supports	4	Wood	2 pcs—1/2" x 3 3/4" x 18 1/2" 2 pcs—1/2" x 3 3/4" x 17"
12	Support Blocks	2	Wood	1/2" x 3" x 3 1/4"
13	Tray Slide	2	Wood	1/2" x 1/2" x 8"
14	Adjustable Headrest	1		Suitable Size
15	Casters	4	Flange Type	1 5/8" Dia.
16	Tray	1	Wood	1/2" x 18" x 21"
17	Tray Clamps	2	Wood	1" x 1" x 8"
18	Hook and Eye Locks	2 Sets	Steel	



Children's Rehabilitation Institute, Cackeysville, Md.

CHAIR, WORK



This chair is adjustable to allow for growth.

Hartford County Rehabilitation Work Shop, Inc., a Chapter of the Connecticut Society for Crippled Children and Adults, Inc., Hartford, Conn.

WORK CHAIR

Occupational Therapy

For the convenience of child and parent, a highchair is often needed by the cerebral palsied boy or girl. Eating with the family and many other activities demand that the child be on the same level as the rest of the family.

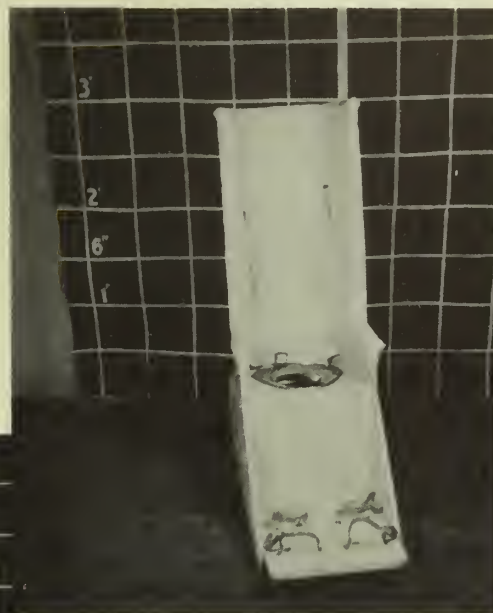
This work chair was designed for use in the home. Its many adjustable features make it generally useful. It is constructed so that it can "grow" with the child.

If head support is needed, a pillowcase of heavy washable fabric may be slipped over the uprights, or a washable plastic material may be tacked on securely.

In measuring the chair arms, care should be taken to see that the tray is not too high. It should come just to the child's elbow when the shoulders are relaxed and the elbows bent, as indicated in the above illustration.

No. 30

CHAIRS, TOILET



Chairs may aid in toilet training.

School for Cerebral Palsied Children, Southern California, Altadena, Calif.

TOILET CHAIRS

Special Education

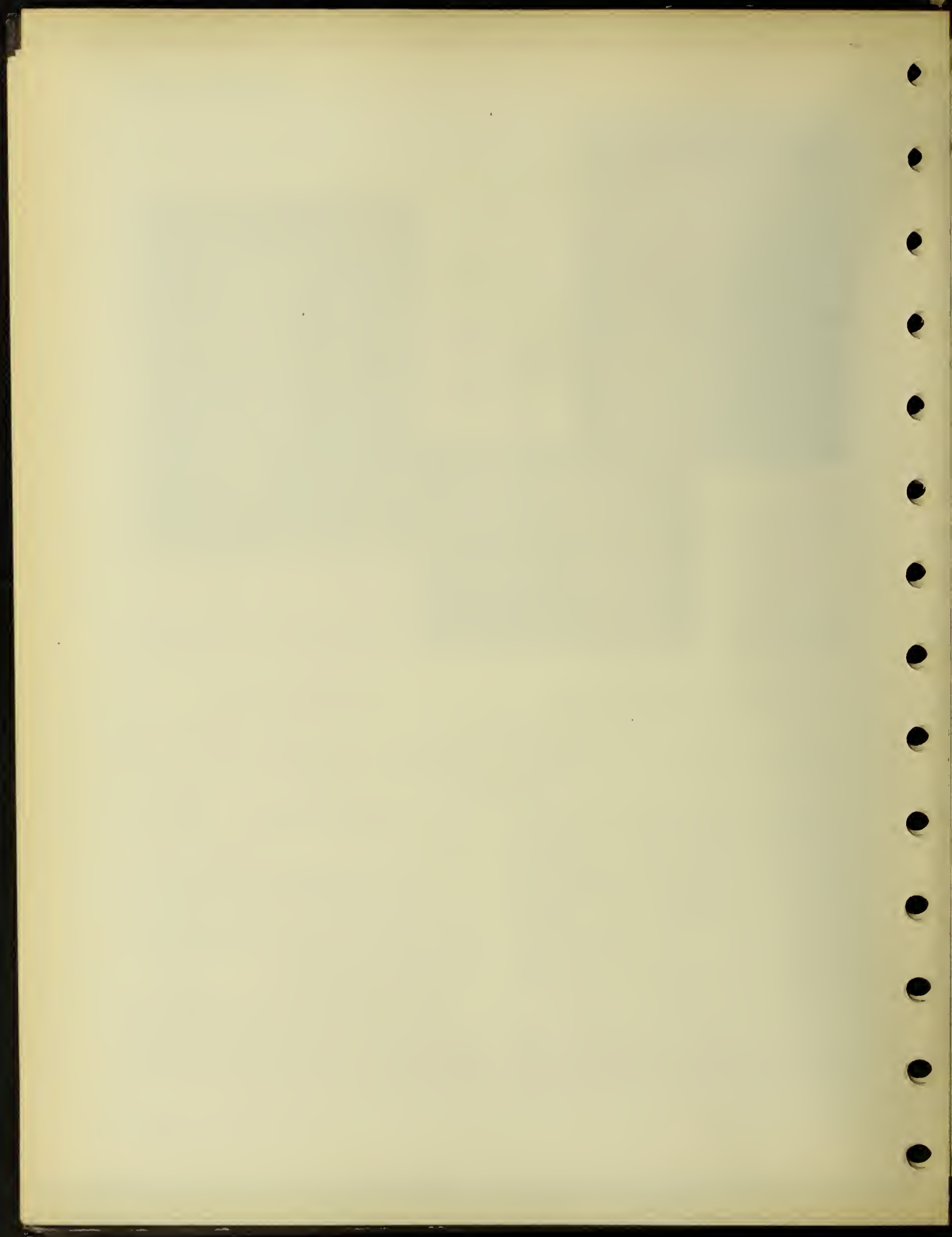
Toilet training may be started before the cerebral palsied child can sit alone if he is provided with a special chair. The type of toilet chair made for the individual child should be similar to the one he uses throughout the day. The chair back should be high to support weak neck and trunk muscles. The seat should be sloping and narrow so that the child need not struggle to maintain sitting balance.

Side arms on the chair will give added security. A wide canvas binder, placed around his waist, laced through holes on the chair back and tied in the back, prevents falling forward. The child's

feet may need to be stabilized to further aid relaxation.

A vessel may be slid under an opening in the chair seat or a removable child-size bedpan may be inserted from the top. It should be placed flush with the seat (as shown in the photographs). Edges of the opening should be rounded off to make the seat comfortable.

The toilet chairs shown are for children who are moderately or severely handicapped. Each chair is made to measurement for the individual child. (For measurements refer to other chairs, special and standard.)



CLIMBING APPARATUS



To strengthen large muscles of the back, legs, abdomen and arms.

Polomac Engineering Corporation, Chicago, Ill.

CLIMBING APPARATUS

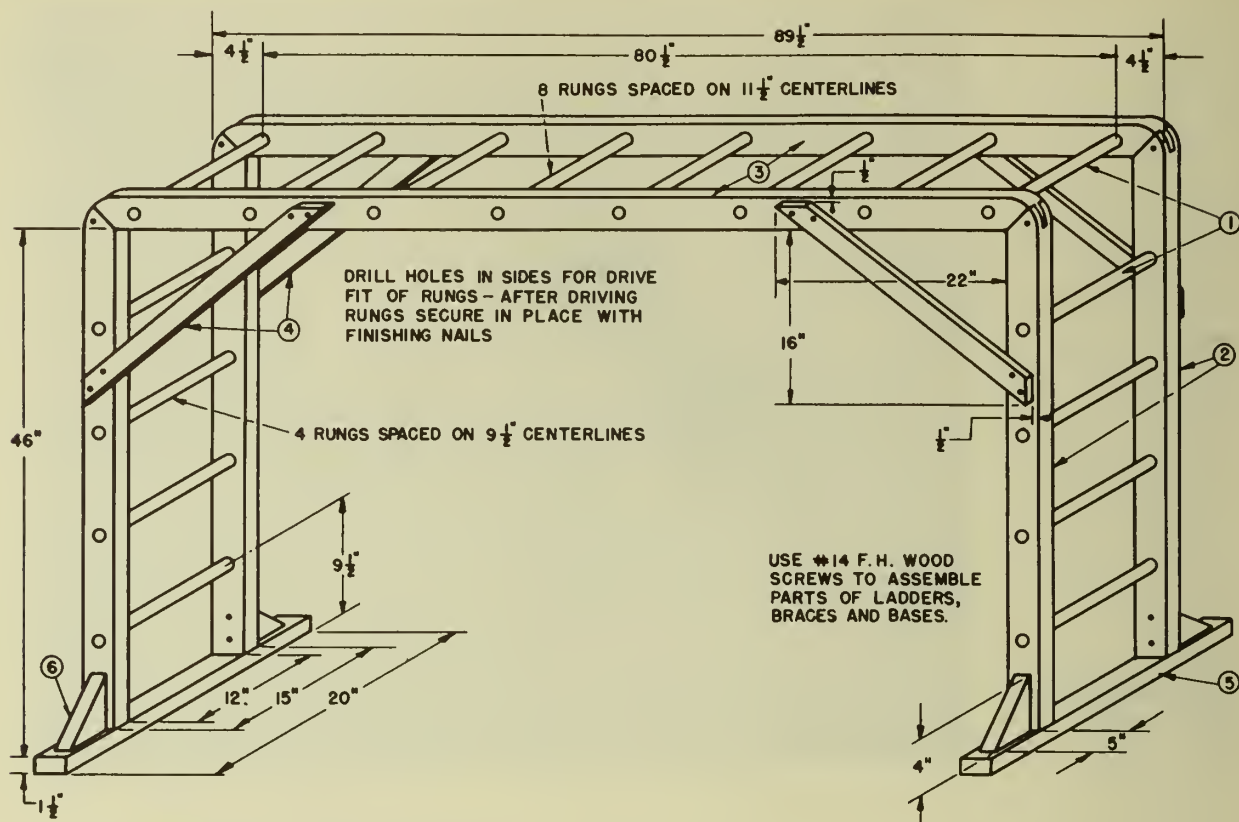
Special Education—Physical Therapy

The desire and urge to climb is present in most children. Cerebral palsied children will vary in their accomplishments but satisfaction can be realized through individual progress. Although children chin and climb "just for fun," the large muscles of the legs, back, abdomen and arms may

be strengthened through this experience; judgment in spatial relations may be improved and weak arms may gain the strength needed to manage crutches. The attached portable ladder adds variety to the climbing experience.

No. 32

CLIMBING APPARATUS



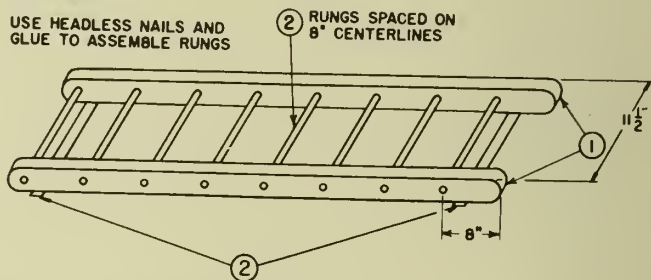
NOTE: ROUND OFF ALL EDGES AND CORNERS

BILL OF MATERIALS—LADDER

Part No.	Name of Part	No. Required	Material	Remarks
1	Ladder Sides	4	Maple	1 1/2" x 3" x 66"
2	Rungs	16	Maple	1" Dia. x 11 1/2"
3	Supports	2	Maple	1" x 1" x 11 1/2"
	No. 10 Flt wood Scr's 1 3/4" Long	4		Standard

REMOVE ALL SHARP EDGES AND CORNERS

USE HEADLESS NAILS AND GLUE TO ASSEMBLE RUNGS



BILL OF MATERIALS—CLIMBING APPARATUS

Part No.	Name of Part	No. Required	Material	Remarks
1	Rungs	16	Maple	1" Dia. x 15" Long
2	Vertical Ladder Sides	4	Maple	1 1/2" x 3" x 50"
3	Hor. Ladder Sides	2	Maple	1 1/2" x 3" x 89 1/2"
4	Diagonal Braces	4	Maple	1" x 2" x 32"
5	Base	2	Pine	1 1/2" x 3" x 20"
6	Angle Blocks	4	Pine	1" x 4" x 5"

Potomac Engineering Corporation, Chicago, Ill.

COTS



Provide needed rest and relaxation.

Potamoc Engineering Corporation, Chicago, Ill.

COTS

General Equipment

Rest and relaxation are essential for all children, but a cerebral palsied child may require more than others for some of the following reasons: too long periods of sitting, wearing heavy braces and the excessive amount of energy used in performing simple tasks, more time for transportation to and from home.

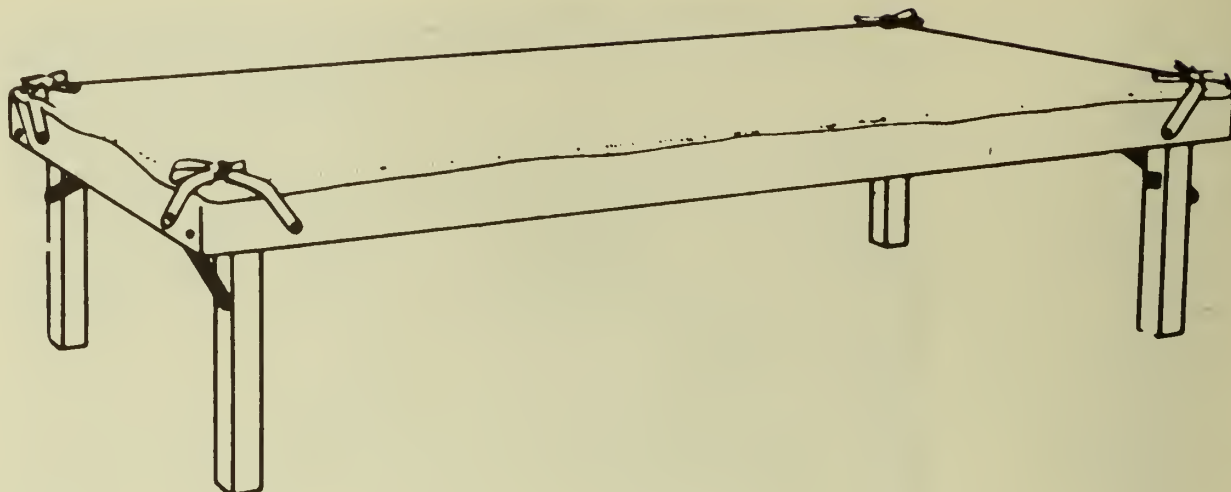
Individual cots, graded in length, width and height, will help to counteract the stress and strain during the day and provide the rest and

relaxation necessary for health. If a cot is low enough for the child, he may learn to get in and out of bed alone.

The folding legs on these cots make them easy to stack and store in the classroom. Blankets are easily rolled and stored in cloth sacks with draw strings.

Some children may not relax during group rest period. Low movable screens placed by the bed may help overcome this problem.

COTS



BILL OF MATERIALS

ONE SIZE: $26\frac{7}{8}$ inches wide by 12 inches high by $51\frac{7}{8}$ inches long.
MATERIAL: Hardwood frame and legs, with cotton duck cover.

Polomoc Engineering Corporation, Chicago, Ill.

CRUTCHES, CRAB



Balance is easier with a tripod support.

Children's Rehabilitation Institute, Cockeysville, Md.

CRAB CRUTCHES

Physical Therapy

Learning to walk is often a long tedious struggle for the cerebral palsied. Equipment, such as crab crutches, is useful during the training period. These crutches give a wide base for support; they are stable and often are motivating

because they are different. The one-inch doweling is light for the child to lift. The width at the bottom depends upon the amount of support needed and the size of the patient. Four-point walking or tripod gait may be used with crab crutches.

No. 34

CRUTCHES, CRAB

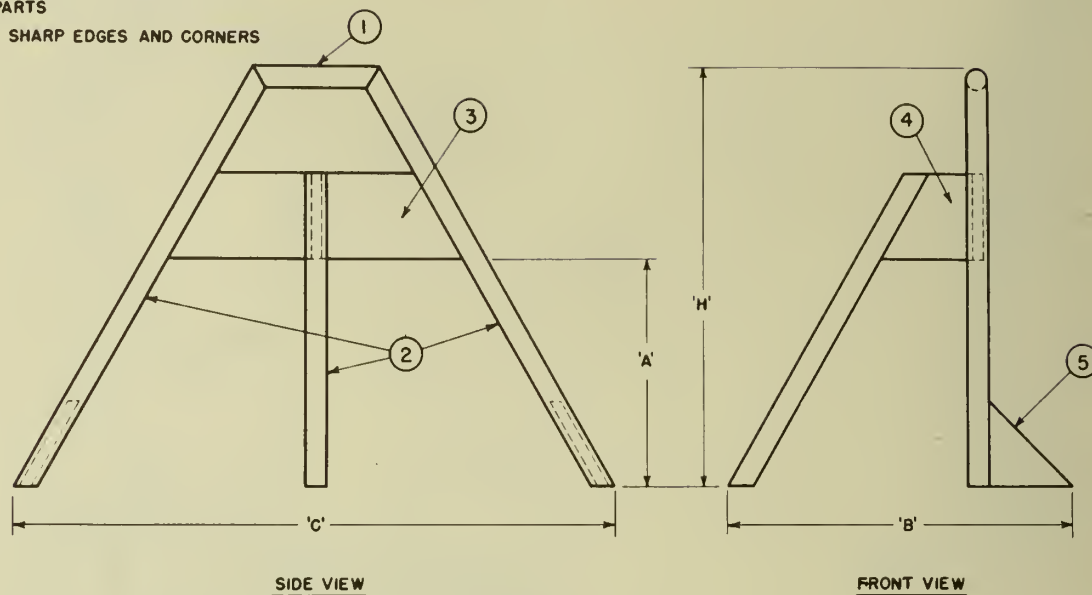
'H' DIMENSION ACCORDING TO HEIGHT OF CHILD

'A' DIMENSION EQUALS 1/2 'H'

'B' AND 'C' DIMENSIONS ACCORDING TO SUPPORT
NEEDED BY CHILD

USE #10 F.H. WOOD SCREWS AND GLUE TO
ASSEMBLE PARTS

REMOVE ALL SHARP EDGES AND CORNERS



BILL OF MATERIALS

Part No.	Name of Part	No. Required	Material	Remarks
1	Hand Bar	2	Wood	1" Doweling 6" Long
2	Legs	6 pcs.	Wood	1" Doweling
3	Horizontal Support	2	Wood	3/4" Thick — 4" Wide
4	Spacer	2	Wood	3/4" Thick, 4" Wide
5	Leg Supports	4	Wood	3/4" Thick, 4" Wide

Children's Rehabilitation Institute, Cockeysville, Md.

CRUTCHES, IMPROVISED



(Above) Easily constructed crutches.



(Right) Red crutch forward—red bow forward.

Cerebral Palsy Pre-School Center, Lenox Hill Hospital and New York State Association for Crippled Children, Inc., New York, N. Y.

IMPROVISED CRUTCHES

Physical Therapy

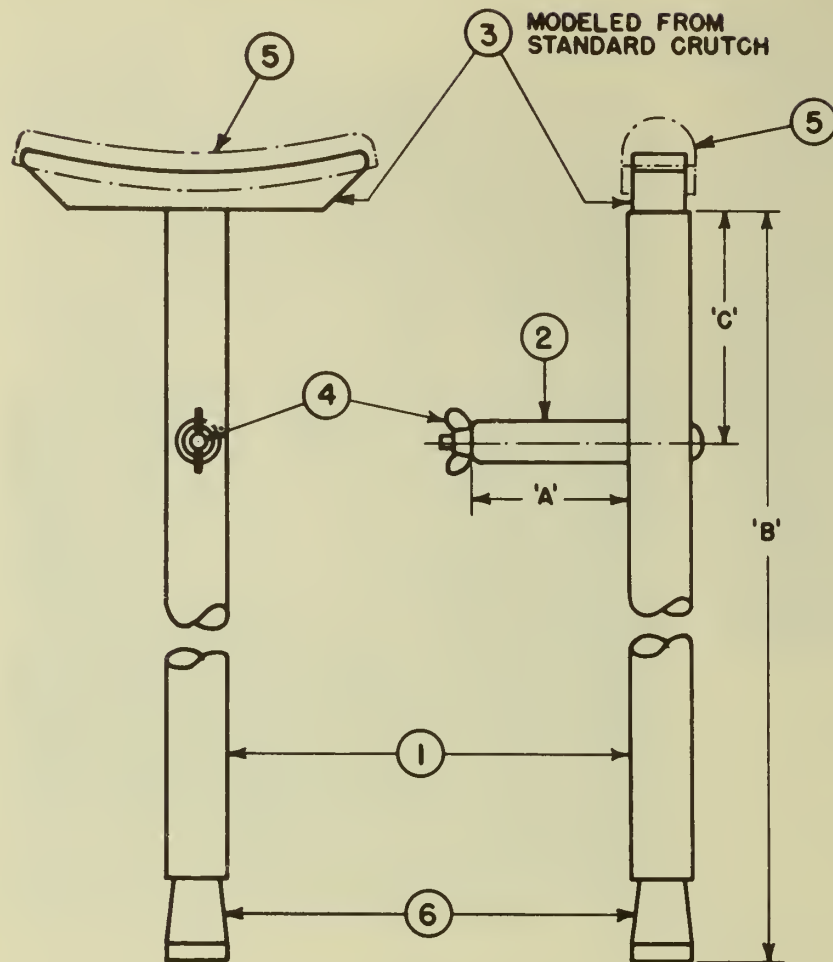
For the patient who has difficulty in supinating to a neutral position, a single shaft crutch with hand bar attached at right angles may be helpful. Length of crutches should be the same as for standard ones. (Note: Child in picture is demonstrating grasp, foot and crutch placement.)

Heavy doweling is used for shaft and hand

bar. Rubber crutch tops are used on underarm piece modeled from standard crutch.

For motivation and easier learning of coordination in young children, one crutch is painted red, the other yellow. Red and yellow bows are tied to opposite shoes so the child can be instructed to move red crutch and red bow. Either two-point or four-point technique may be used.

CRUTCHES, IMPROVISED



REMOVE ALL SHARP
EDGES AND CORNERS
PART 3 JOINED TO PART
1 WITH DOWEL PINS AND
GLUE

'A', 'B', 'C' DIMENSIONS
ACCORDING TO INDIVIDUAL
CHILD

BILL OF MATERIALS				
Part No.	Name of Part	No. Required	Material	Remarks
1	Crutch	2	Birch Wood	Railings
2	Hand Rest	2	Birch Wood	$\frac{3}{4}$ " Dia.
3	Underarm Piece	2	Birch Wood	
4	Carriage Bolt— Washer— Wing Nut	2 Sets	Steel	$\frac{1}{4}$ " Dia. Bolt
5	Crutch Tops	2	Rubber	
6	Crutch Tips	2	Rubber	

Cerebral Palsy Pre-School Center, Lenox Hill Hospital and New York State Association for Crippled Children, Inc., New York, N. Y.

CRUTCHES, SAW HORSE



Saw horse crutches
—another aid to
walking.

Cerebral Palsy Treatment Center, Franklin County Society for Crippled Children, Columbus, Ohio

SAW HORSE CRUTCHES

Physical Therapy

The saw horse crutch is another variation of a broad base support for walking training. Different gaits may be taught for using the crutches. Cross bar at top is made of one inch doweling about 16 inches long. The uprights are three-

quarters of an inch by one and three-quarters inches wood. Height of crutch depends upon the size of the patient. A slight elbow bend as for standard crutches is suggested.

No. 36

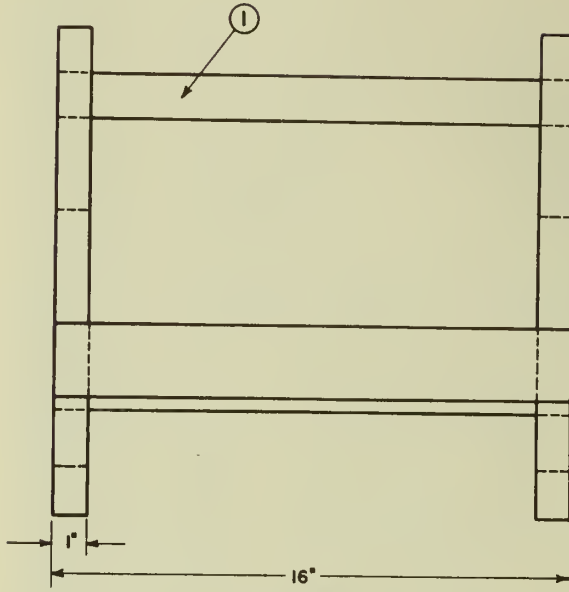
CRUTCHES, SAW HORSE

REMOVE ALL SHARP EDGES
AND CORNERS

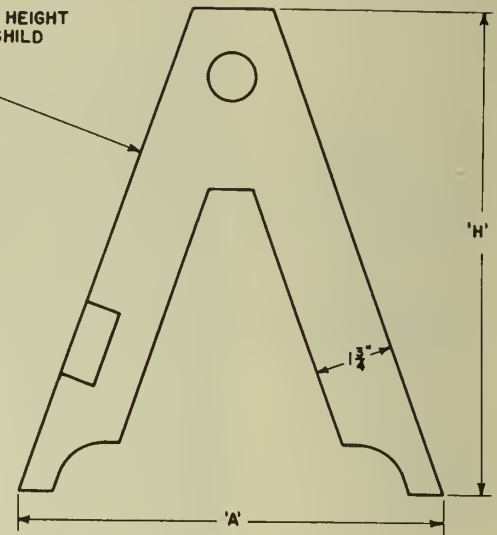
USE #10 F.H. WOOD SCREWS AND
GLUE TO ASSEMBLE PARTS

'A' DIMENSION - AMOUNT OF
SUPPORT REQUIRED BY CHILD

'H' DIMENSION - HEIGHT
REQUIRED BY CHILD



SIDE VIEW



FRONT VIEW

BILL OF MATERIALS

Part No.	Name of Part	No. Required	Material	Remarks
1	Cross Bar	2	Wood	1" Doweling, 16" Long
2	Uprights	4	Wood	
	Support Bar	2	Wood	1" x 1 3/4" x 16"

Children's Rehabilitation Institute, Cockeysville, Md.

DOLL AND ENGINE BUGGY, WEIGHTED



Children's Rehabilitation Institute, Cockeysville, Md.



Curative Workshop of Milwaukee, Milwaukee, Wis.

A weighted doll or engine buggy is a motivating factor.

WEIGHTED DOLL AND ENGINE BUGGY

Physical Therapy—Special Education

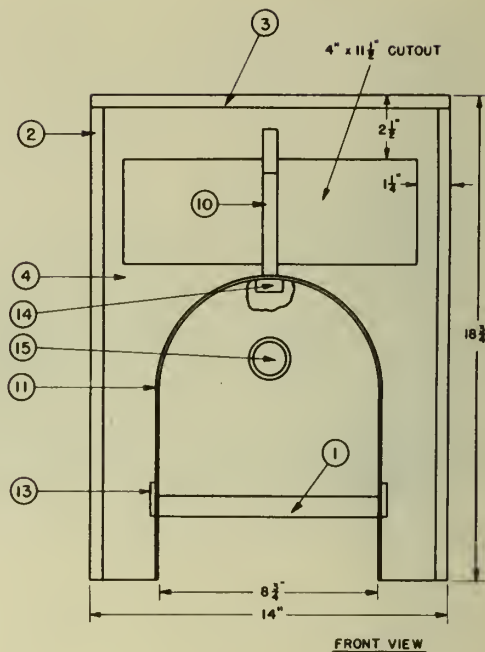
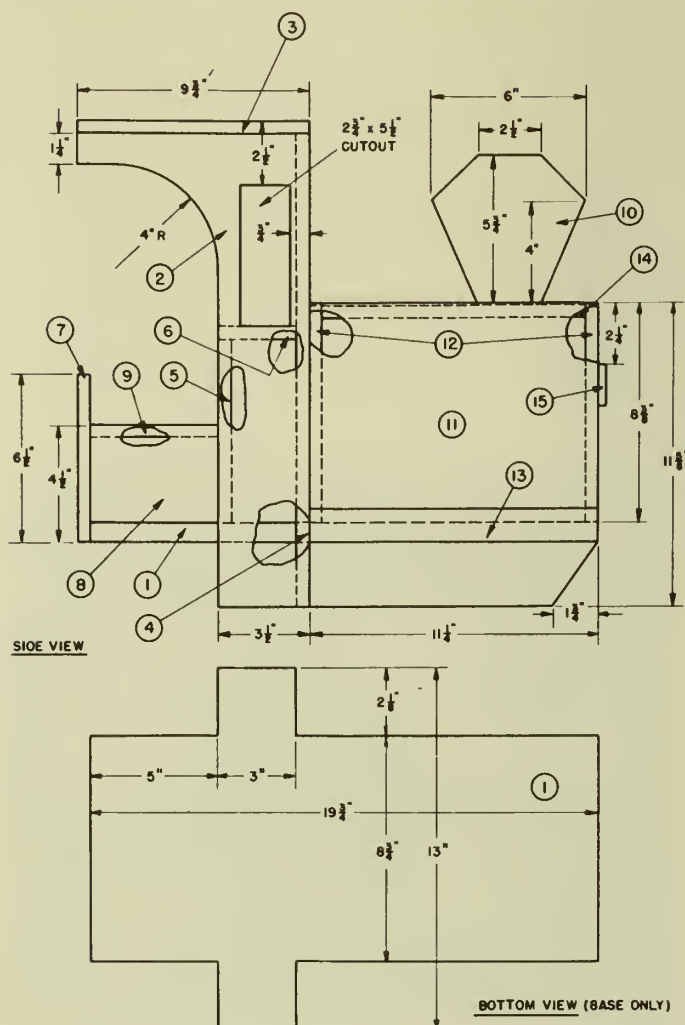
During walking training when balance is not sufficient for unassisted steps, a weighted buggy may be used. Use of buggy motivates the child to spend more time in an upright position.

Bricks, sand or other available weights are satisfactory if they are heavy enough to keep buggy from tipping against pressure on the

handle. This is very important when a child is apprehensive about falling.

The handle of the buggy should be high enough so that child can maintain good erect posture. A standard commercial buggy may be improvised with an engine cab to interest boys. (Note reversal of interests in pictures.)

DOLL AND ENGINE BUGGY, WEIGHTED



REMOVE ALL SHARP EDGES AND CORNERS
USE #8 F.H. WOOD SCREWS AND GLUE TO
ASSEMBLE PARTS
PLACE SANOBAGS IN ENGINE PRIOR TO
COMPLETION
ENGINE TO BE MOUNTED ON DOLL CARRIAGE
CHASSIS

BILL OF MATERIALS—ENGINE CAB

Part No.	Name of Part	No. Required	Materials	Remarks
1	Base	1	Wood	3/4" Thick—See Detail
2	Cab Sides	2	Wood	1/2" x 9 3/4" x 18 1/4"
3	Cab Top	1	Wood	1/2" x 9 3/4" x 14"
4	Cab Front	1	Wood	1/2" x 13" x 18 1/4"
5	Cab Back	1	Wood	1/2" x 7" x 13"
6	Cab Center Spacer	1	Wood	1/2" x 3" x 13"
7	Cab Box—Back	1	Wood	1/2" x 6 1/2" x 8 3/4"
8	Cab Box—Sides	2	Wood	1/2" x 3 3/4" x 5"
9	Cab Box—Top	1	Wood	1/2" x 5" x 7 3/4"
10	Stack	1	Wood	1/2" Thick
11	Engine	1	Heavy Cardboard	11 1/4" wide, 28 1/2" long
12	Engine Front and Back	2	Wood	1/2" x 8 3/8" x 8 3/4"
13	Side Strips	2	Wood	1/4" x 1 1/4" x 11 1/4"
14	Stack Support	1	Wood	1/2" x 1" x 10 1/4"
15	Head Light	1	Dry Cell Flashlight	

Creative Workshop of Milwaukee, Milwaukee, Wis.

DOLL HOUSE



A motivation for speech and dramatic play.

Meeting Street School, Crippled Children and Adults of Rhode Island, Inc., Providence, R. I.

DOLL HOUSE

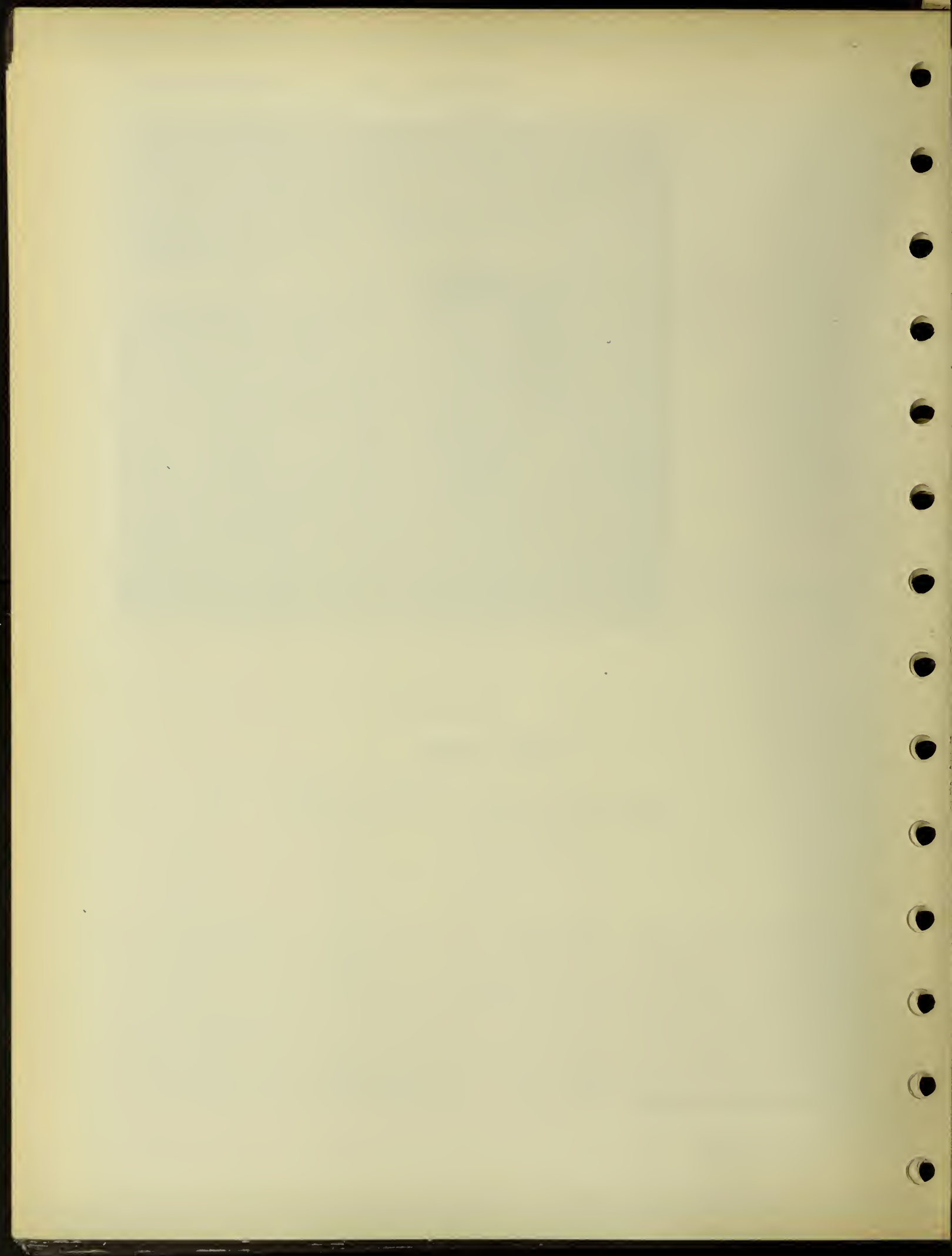
Special Education—Speech—Occupational Therapy

Most children enjoy playing "make believe" and into this make believe they project their personal problems. Careful observation of the child's play behavior reveals much useful information for understanding and guiding his development.

Dolls and furniture may be handled by the child, if he is able, or by the therapist. To encourage speech and language, essential vocabu-

lary involved in this play situation can be stressed. Dolls may be made to perform according to the child's instruction. When several children share the situation, spontaneous speech is stimulated. The doll house provides an interesting framework for setting up natural, common speech and language learning situations.

No. 38



DOLLY, CHAIR



For transporting cerebral palsied children in their own chairs.



Sigma Gamma Hospital School, Detroit Orthopaedic Clinic, Mt. Clemens, Mich.

CHAIR DOLLY

General Equipment

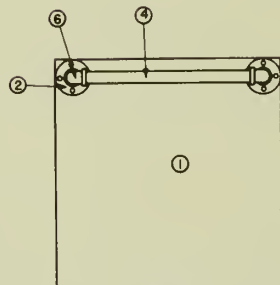
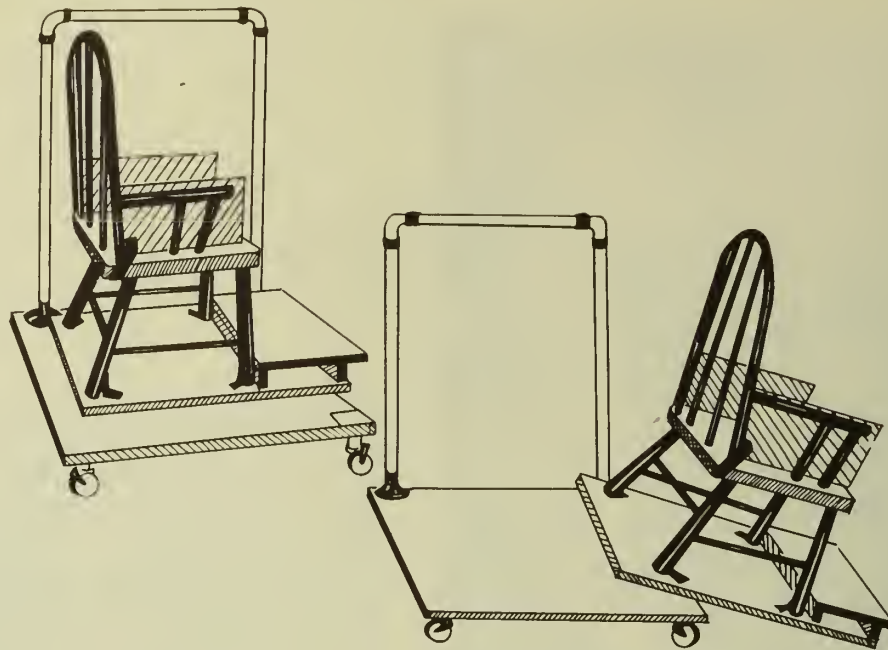
If the cerebral palsied child's chair is not equipped with casters, a wheeler or dolly is useful in transporting him from room to room.

The child should be fastened securely in the chair by means of a pelvic restrainer or similar

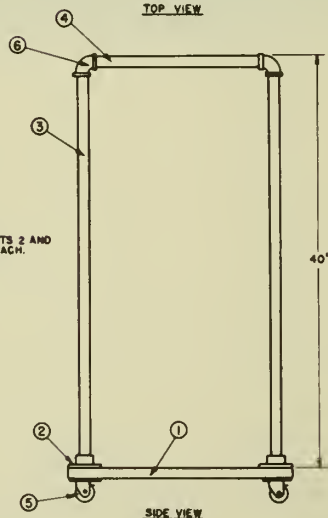
device. The chair can then be tipped, the wheeler rolled half way under the chair's platform, and the chair pulled on.

Directions: Dimensions may be changed for use with larger or smaller chair platforms.

DOLLY, CHAIR



TOP VIEW



ASSEMBLE PARTS 2 AND
3 WITH FLAT NACH.
SCREWS.

SIDE VIEW

BILL OF MATERIALS

Part No.	Name of Part	No. Required	Material	Remarks
1	Base	1	Plywood	1" x 22" x 22"
2	Flanges	2	Steel	For $\frac{3}{4}$ " Pipe
3	Vertical Support	2	Steel	$\frac{3}{4}$ " Pipe — 38" Long
4	Horizontal Support	1	Steel	$\frac{3}{4}$ " Pipe — 18" Long
5	Flanged Casters	4		1 $\frac{1}{2}$ " Diameter
6	90 Deg. Elbows	2	Steel	For $\frac{3}{4}$ " Pipe

Sigma Gamma Hospital School, Detroit Orthopaedic Clinic, Mt. Clemens, Mich.

DRAWING BOARD, STANDING



Standing motivation through
easel activities.

University of Illinois Occupational Therapy Section, Chicago, Ill.

STANDING DRAWING BOARD

Occupational Therapy—Special Education—Speech

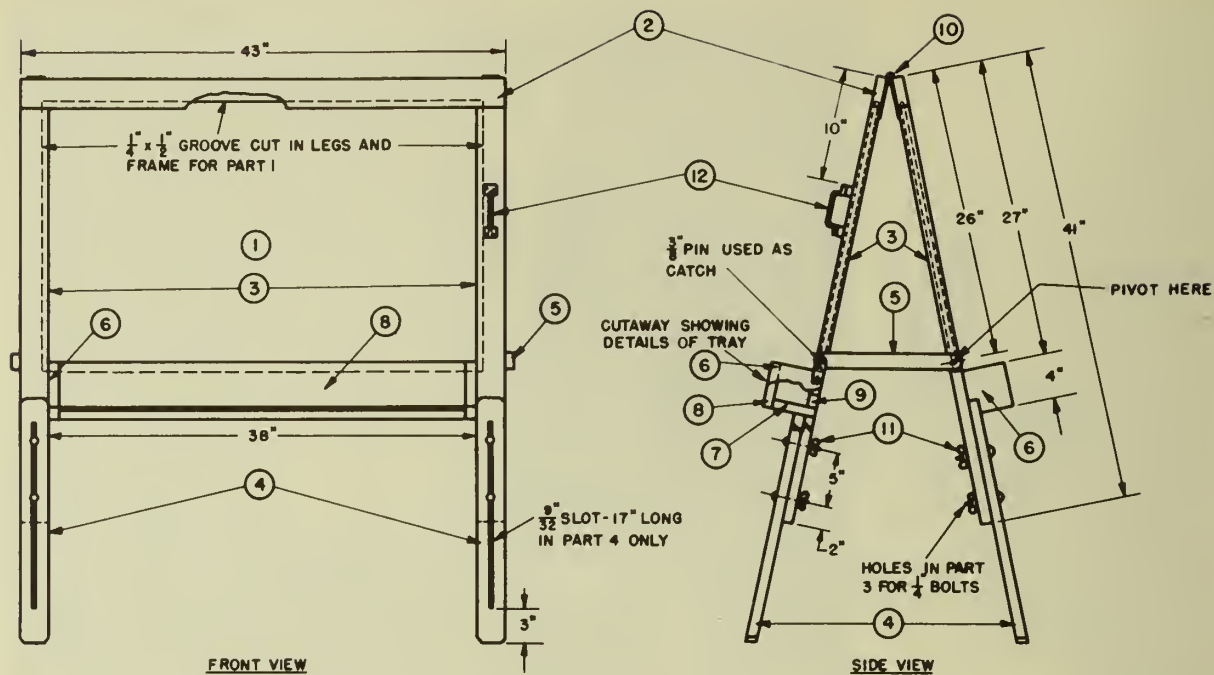
An easel or drawing board provides creative expression as well as a means of increasing strength and control in the cerebral palsied child. It may be used in teaching arm control and in providing necessary motivation to encourage a standing position for stated periods which may be increased as the child improves.

The drawing board shown is adjustable for height, and may be used by children of all ages.

For balance, the small child may hold on to the paint rack, and the larger child may hold the handle on the side. Additional handles may be placed at different heights and on either or both sides.

No. 40

DRAWING BOARD, STANDING



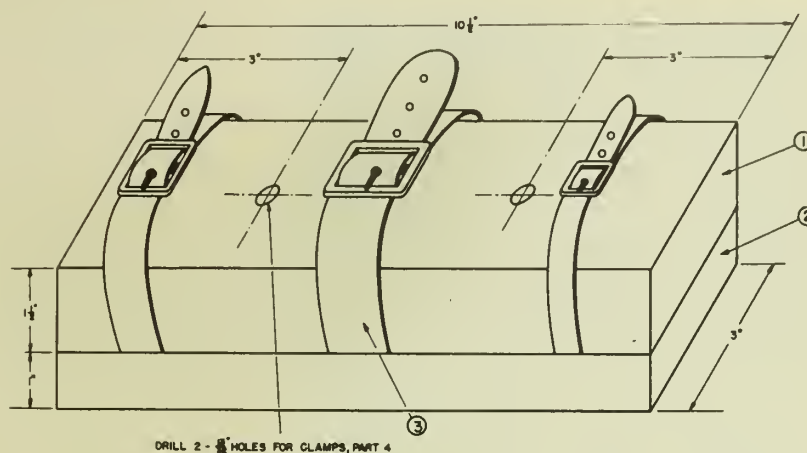
REMOVE ALL SHARP EDGES
AND CORNERS
USE #9 F.H. WOOD SCREWS
AND GLUE TO ASSEMBLE PARTS

BILL OF MATERIALS

Part No.	Name of Part	No. Required	Material	Remarks
1	Boards	2	Plywood	1/4" x 24 1/2" x 39"
2	Top Frame	2	Wood	3/4" x 2 1/2" x 43"
3	Legs	4	Wood	3/4" x 2 1/2" x 38 1/2"
4	Adjustable Legs	4	Wood	3/4" x 2 1/2" x 22"
5	Locking Bars	2	Wood	3/4" x 1 1/2" x 12"
6	Tray Sides	4	Wood	3/4" x 4" x 4 3/4"
7	Tray Bottom	2	Wood	3/4" x 4" x 36 1/2"
8	Tray Front	2	Wood	3/4" x 4" x 36 1/2"
9	Tray Back	2	Wood	3/4" x 4" x 36 1/2"
10	Hinges	2	Steel	4" Strap Hinge
11	Wing Nut, Carriage Bolt and Washer	8 Sets	Steel	1/4" Dia., 2 1/4" Long
12	Handle	1	Steel	4" Long

University of Illinois Occupational Therapy Section, Chicago, Ill.

DRESSING AID: BUCKLE BOARD



A variation of the Montessori-type board.

Rehabilitation Center for the Physically Handicapped, Inc., Stamford, Conn., a Chapter of the Connecticut Society for Crippled Children and Adults, Inc.

DRESSING AID: BUCKLE BOARD

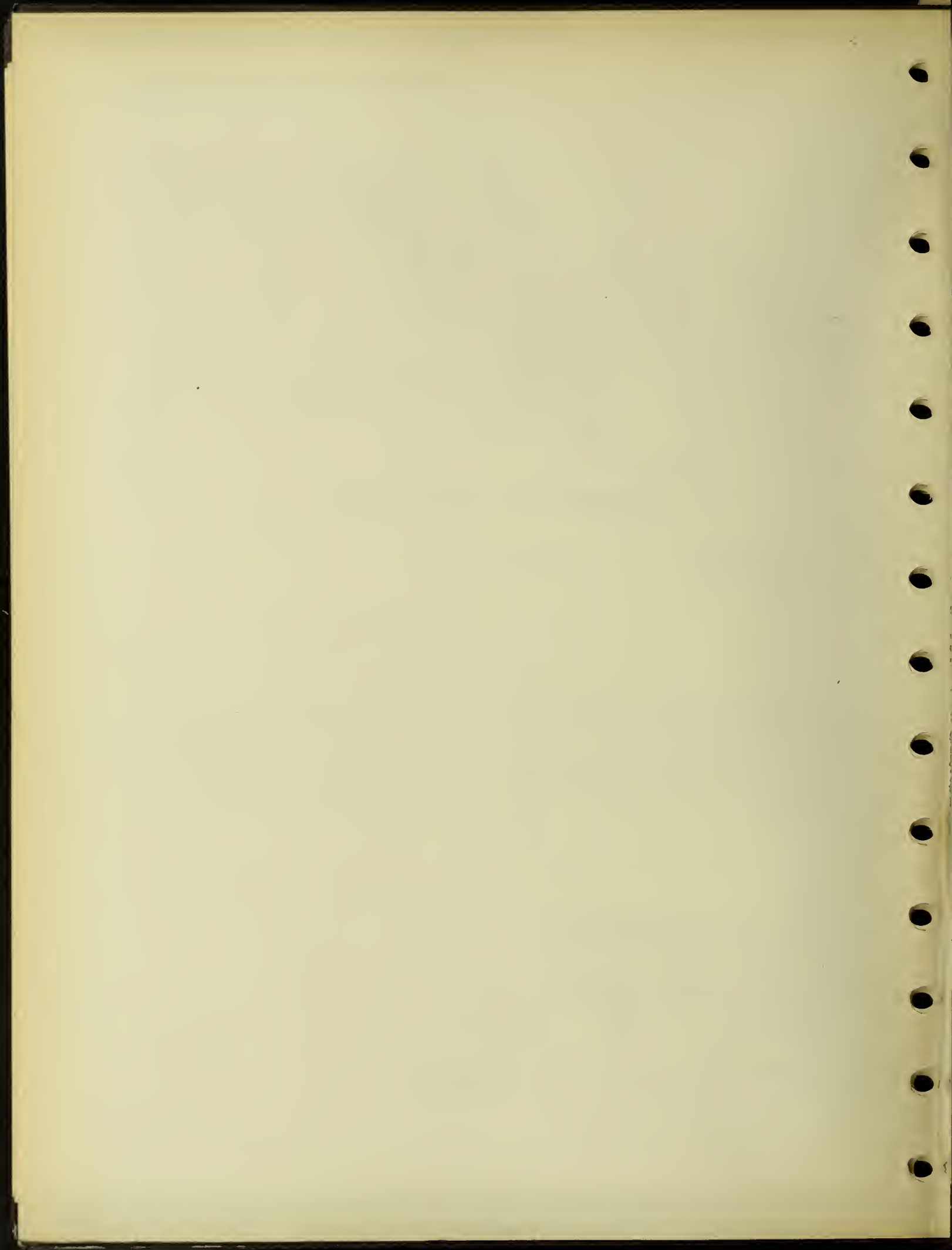
Occupational Therapy

Learning to use buckles is difficult for the cerebral palsied child. Besides those on belts and shoes, many children must learn to manage buckles on braces, splints and other apparatus. This buckle board is useful in teaching children how to fasten and unfasten buckles of different sizes and types.

Directions: Fasten three dog collars of different widths between two blocks of wood bolted together. If webbing is used on the child's personal brace or apparatus, a short length of webbing with a slide buckle on the end may be substituted for one of the dog collars.

BILL OF MATERIALS

Part No.	Name of Part	No. Required	Material	Remarks
1	Top Block	1	Wood	1 1/2" x 3" x 10 1/2"
2	Bottom Block	1	Wood	1" x 3" x 10 1/2"
3	Belts	3		Dog Collars, various Widths
4	Clamps	2	Steel	3/8" Machine Bolts and Nuts—Washers



DRESSING AID: BUTTON BELT



Sigma Gamma Hospital School, Detroit Orthopaedic Clinic, Mt. Clemens, Mich.

For advanced training in buttoning.

DRESSING AID: BUTTON BELT

Occupational Therapy

This button belt may be tied around the child so that the required buttons are situated where they normally would be on his own clothes. This saves wear and tear on the clothing during practice. It also makes buttons available for practice, no matter what clothes the child happens to be wearing. It may be used either side up except for the fly front. A variety of buttons is provided.

Be sure that the material used is fast color and pre-shrunk and that the buttons selected will stand washing.

Directions: Cut and sew pieces 1, 2, 3, 4, 5 as shown in diagram.

Sew tapes to pieces 1 and 5, one inch in from the outside corners.

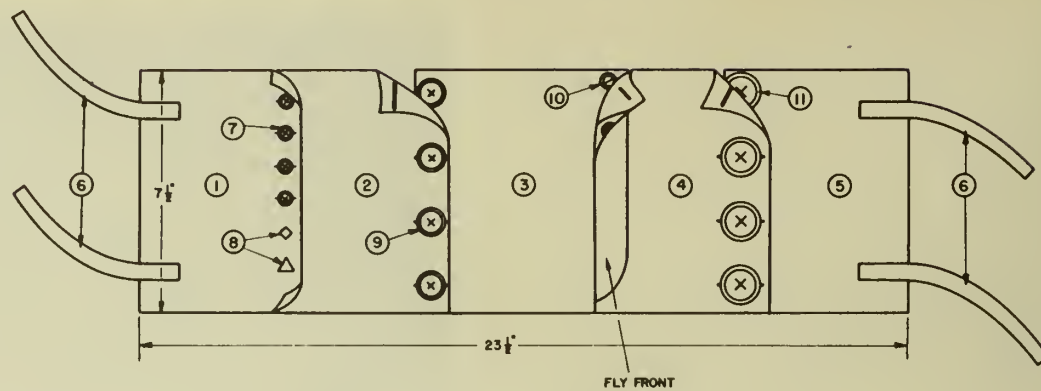
Sew four, three-eighths inch buttons and two small fancy buttons to piece 2, (see diagram), and work matching buttonholes in piece 1.

Sew four, seven-eighths inch buttons to piece 3, and work matching buttonholes in piece 2.

Sew four, one-half inch buttons to piece 3, and work matching buttonholes in fly front of piece 4.

Sew four, one and one-quarter inch buttons to piece 5, and work matching buttonholes in piece 4, or make bound buttonholes.

DRESSING AID: BUTTON BELT



BILL OF MATERIALS

Part No.	Name of Part	No. Required	Material	Remarks
1	Piece	1	All Preshrunk Thin Cloth	7 1/2" x 5", Finished
2	Piece	1	Indian Head or equivalent	7 1/2" x 5 1/2", Finished
3	Piece	1	Heavy Cloth	7 1/2" x 6 1/2", Finished
4	Piece	1	Heavy Cloth	7 1/2" x 5", Finished
5	Piece	1	Corduroy (Faced)	7 1/2" x 5 1/2", Finished
6	Tapes	4	Cotton	1/2" x 9 1/2"
7	Small Buttons	4	Washable	3/8" Diameter
8	Small Fancy Buttons	2	Washable	
9	Buttons	4	Washable	7/8" Diameter
10	Fly Buttons	4	Washable	1/2" Diameter
11	Large Buttons	4	Washable	1 1/4" Diameter

Sigma Gamma Hospital School, Detroit Orthopaedic Clinic, Mt. Clemens, Mich.

DRESSING AID: BUTTON BOARD



A help in teaching unbuttoning and buttoning.

Children's Rehabilitation Institute, Cockeysville, Md.

DRESSING AID: BUTTON BOARD

Occupational Therapy

Before cerebral palsied children have enough control to button their own clothing, they need a button board. This item may be useful in teaching the principle of buttoning and in teaching arm and finger control.

The material for button boards should be sturdy and washable. If two colors are used, one for the button side and a different one for the buttonhole side, it will facilitate teaching the principle of buttoning. (See diagram A.) Printed materials are contra-indicated for the child with poor eyesight, as the pattern and colors may be confusing and the buttons may not show up clearly against the design of the print. In making these boards, particular attention should be paid to sight-saving principles.

Buttons should be large for beginners, and smaller for more advanced children. They may be of a contrasting color from the cloth.

In beginning training the material can be fastened to the frame with one-inch give on each side, and then tightened as progress is shown.

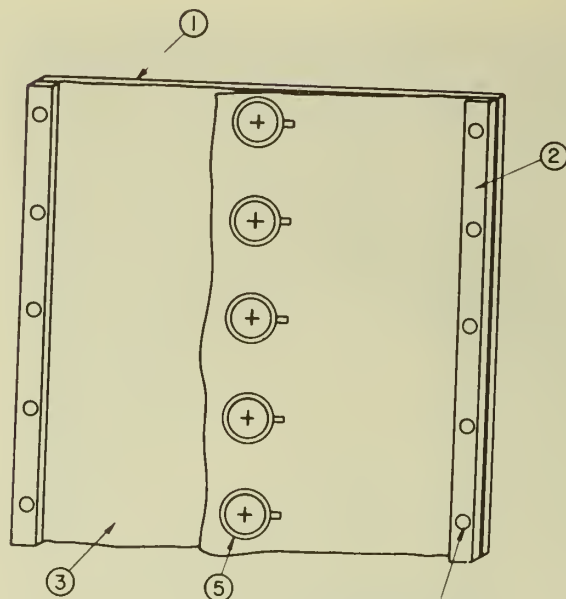
Directions: The frame is made of wood (see diagram A) with a piece of isinglass and Indian Head cloth (or its equivalent) attached to the base by means of the two side pieces, which are screwed down.

The material can be folded back so that it is double, and a tape basted between the two sides where the buttons are sewn. (See diagram B.) (In diagram C the material is cut narrower and hemmed.)

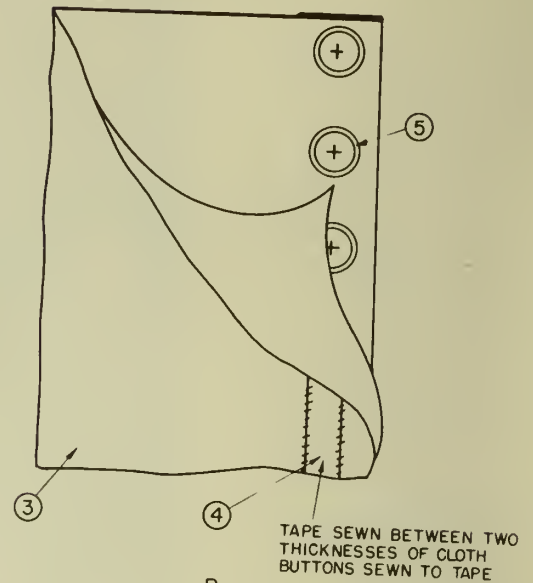
A small tab can be pasted at the top of varied motivating pictures to make it easier to slip them in and out under the isinglass. (See diagram C.)

DRESSING AID: BUTTON BOARD

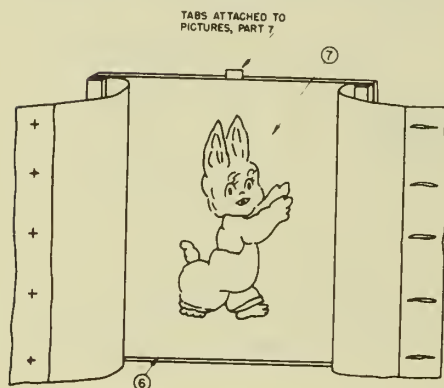
Children's Rehabilitation Institute, Cockeyville, Md.



A



B



C

Children's Hospital Society, Los Angeles, Calif.

BILL OF MATERIALS

Part No.	Name of Part	No. Required	Material	Remarks
1	Base	1	Wood	$\frac{3}{8}$ " x 14" x 14"
2	Clamps	2	Wood	$\frac{3}{8}$ " x $\frac{3}{4}$ " x 14"
3	Flaps	2	Indian Head Cloth	15" x 20"
4	Tapes	1	Cloth	1" Wide, 15" Long
5	Buttons	5	$1\frac{1}{2}$ " Buttons	Various Colors
6	Isinglass	1	Isinglass	14" x $13\frac{1}{2}$ "
7	Pictures	Indefinite		$13\frac{1}{2}$ " x $12\frac{1}{2}$ "

DRESSING AID: BUTTON BOARD, APPLIQUE



The feeling and flexibility of real clothes provide motivation and practice in dressing.

Children's Rehabilitation Institute, Cockeysville, Md.

DRESSING AID: APPLIQUE BUTTON BOARD

Occupational Therapy

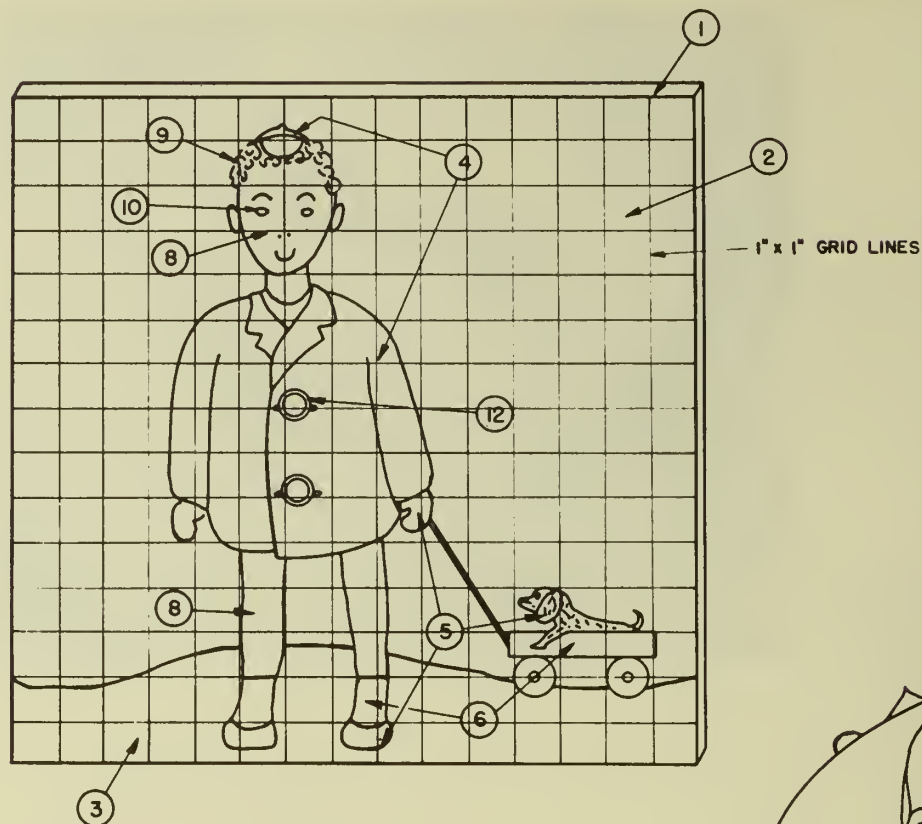
This board bridges the gap between the fastenings on the regular Montessori-type board (refer to *Dressing Aid: Montessori Boards*) and fastenings on the child's own clothing. Either a boy or girl design can be used. The board may be laid flat on the table or held vertically in front of the child and the position changed as the child's skill develops.

Directions: Cut out doll and clothing from

washable, durable material according to the photograph and diagram, allowing enough extra material to turn under at the edges for wide hems for buttons and buttonholes.

Embroider features and arrange hair. Applique doll to background. Applique dress or suit to doll at sides only and use small buttons where indicated. Applique coat to doll at sides only and use large buttons where indicated.

DRESSING AID: BUTTON BOARD, APPLIQUE



BODY IS STUFFED WITH KAPOK.
FIGURE IS SEWED TO BACKGROUND; ALLOWING
COAT, SHIRT AND TROUSERS TO OPEN.
BACKGROUND IS ATTACHED TO EDGES OF BASE
WITH THUMB TACKS

BILL OF MATERIALS				
Part No.	Name of Part	No. Required	Material	Remarks
1	Base	1	Wood	$\frac{3}{8}$ " x 15" x 15"
2	Upper Background and Shirt		Cloth	White
3	Lower Background		Cloth	Green
4	Coat—Hat		Cloth	Tan
5	Shoes, Gloves, Dog		Cloth	Brown
6	Wagon, Socks		Cloth	Red
7	Trousers		Cloth	Blue
8	Face, Legs		Cloth	Flesh Color
9	Hair		Yarn	
10	Features		Embroidery Floss	
11	Small Buttons	4		
12	Large Buttons	2		
13	Stuffing		Kapok	

Children's Rehabilitation Institute, Cockeysville, Md.

DRESSING AID: BUTTON BOARD, PRIMARY



Simplified practice with
"buttons."

Rehabilitation Center for the Physically Handicapped, Inc., Stamford, Conn., a Chapter of the Connecticut Society for Crippled Children and Adults, Inc.

DRESSING AID: PRIMARY BUTTON BOARD

Occupational Therapy

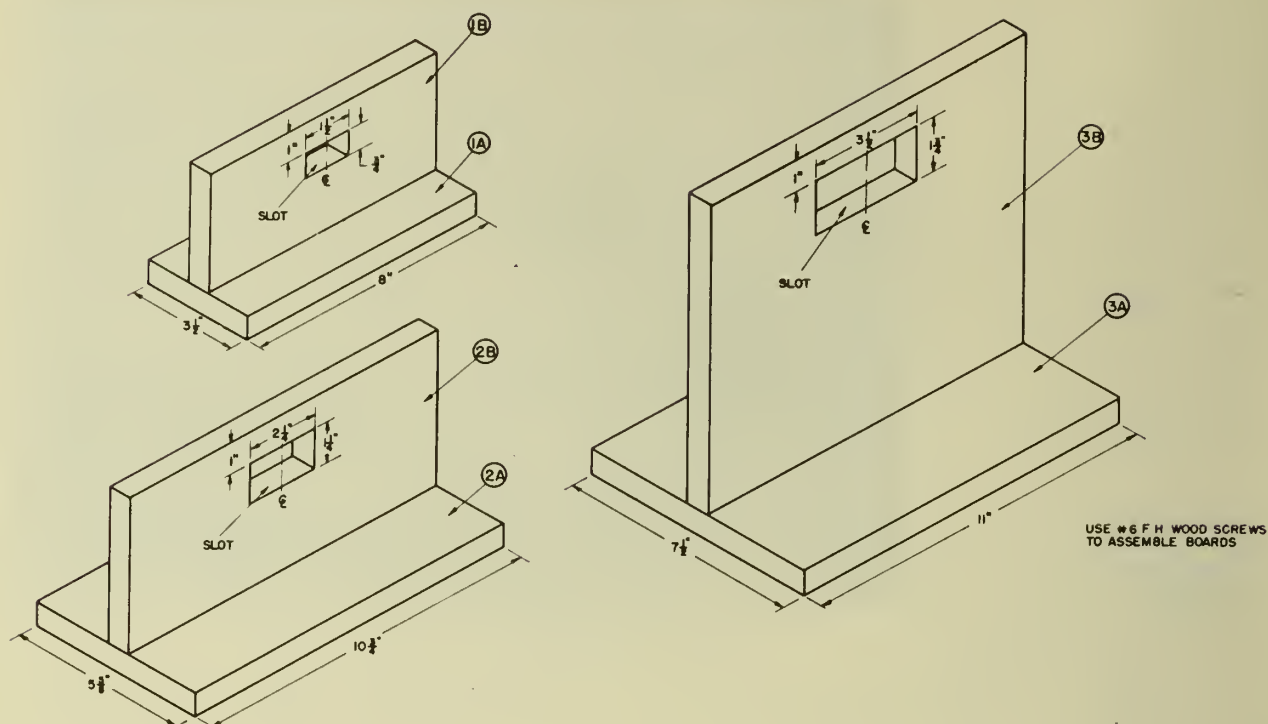
These boards are used for a dual purpose. They are helpful in introducing the idea of the buttoning principle and they are an aid in teaching finger control. The child is presented with a button (wooden disk) which is to be put through the slot of the upright board. As he is better able to accomplish this, smaller boards are

used to up-grade the difficulty of the task. When the child is able to perform with the smallest board, he is advanced to real buttons.

Directions: Illustrated are three primary button boards of graded sizes. Use wooden disks of graded sizes and thicknesses which will fit easily through the slots.

No. 45

DRESSING AID: BUTTON BOARD, PRIMARY



BILL OF MATERIALS

Part No.	Name of Part	No. Required	Material	Remarks
1A	Baseboard	1	Wood	$\frac{3}{4}$ " x $3\frac{1}{2}$ " x 8"
1B	Button Board	1	Wood	$\frac{3}{4}$ " x 4" x 8"
2A	Baseboard	1	Wood	$\frac{3}{4}$ " x $5\frac{5}{8}$ " x $10\frac{3}{4}$ "
2B	Button Board	1	Wood	$\frac{3}{4}$ " x 6" x $10\frac{3}{4}$ "
3A	Baseboard	1	Wood	$\frac{3}{4}$ " x $7\frac{1}{2}$ " x 11"
3B	Button Board	1	Wood	$\frac{3}{4}$ " x 8" x 11"
3	Buttons	3	Wood Disks	To Fit Slots Easily

Remove all sharp edges.

Rehabilitation Center for the Physically Handicapped, Inc., Stamford, Conn., a Chapter of the Connecticut Society for Crippled Children and Adults, Inc.

DRESSING AID: BUTTON BOX



A help in teaching buttoning.

Children's Rehabilitation Institute, Cockeysville, Md.

DRESSING AID: BUTTON BOX

Occupational Therapy

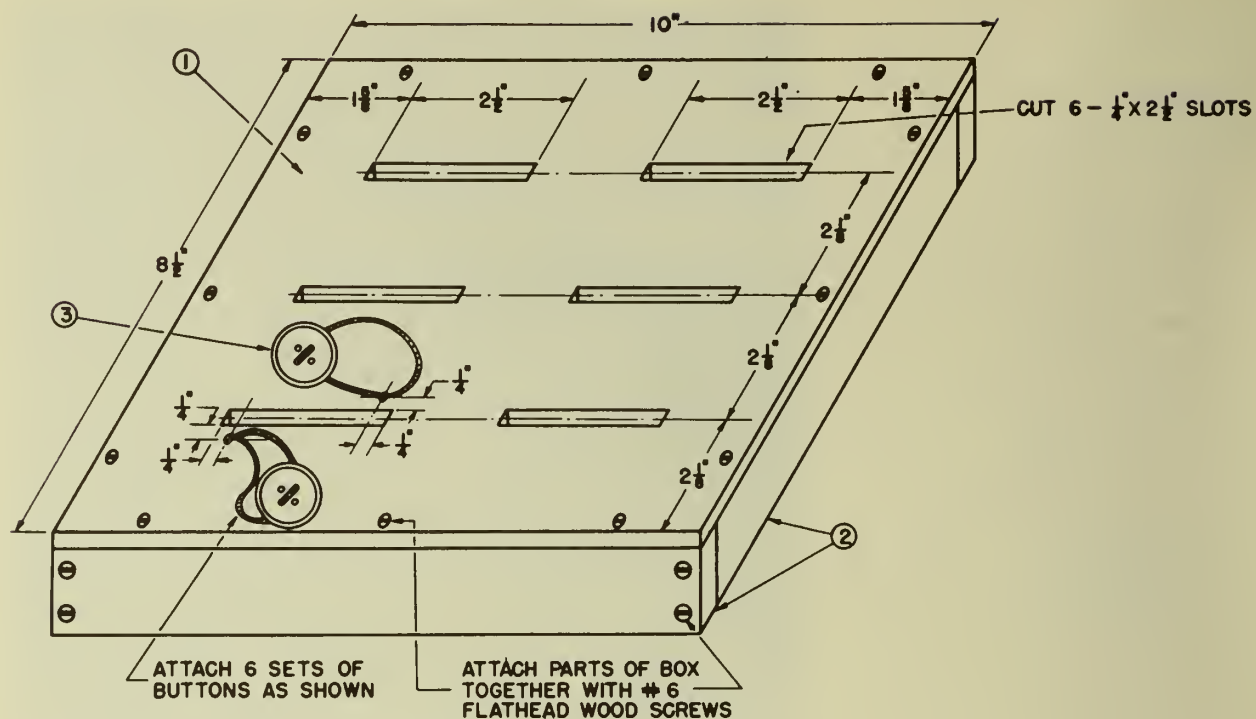
Many cerebral palsied children must be taught how to handle buttons before they learn enough control to manipulate a button through a cloth buttonhole. This item is useful in teaching thumb and finger opposition as a preliminary to the teaching of buttoning.

The box may be used horizontally or vertically, and with the slots up and down or cross-wise.

Directions: Paint a one-fourth inch band around each slot, using a different color for each one. Use non-poisonous paint. Give the whole box a coat of waterproof varnish. Attach six sets of buttons, two of each color—one on two and one-half inch string; one on one and one-half inch string. Match the buttons to the slot of the corresponding color.

No. 46

DRESSING AID: BUTTON BOX



BILL OF MATERIALS				
Part No.	Name of Part	No. Required	Material	Remarks
1	Box Top	1	$\frac{1}{4}$ " Plywood	$8\frac{1}{2}$ " x 10"
2	Box Sides	4	$\frac{1}{2}$ " Pine	2— $1\frac{1}{4}$ " x 10" and 2— $1\frac{1}{4}$ " x $7\frac{1}{2}$ "
3	Buttons	12		2 of each color
4	Wood Screws	20	Steel	Flat Head, 1" Long

Children's Rehabilitation Institute, Cockeysville, Md.

DRESSING AID: BUTTON CLOWN



Learning to handle buttons.

New York State Rehabilitation Hospital, West Haverstraw, N. Y.

DRESSING AID: BUTTON CLOWN

Occupational Therapy

The button clown is designed to help maintain the cerebral palsied child's interest while he is learning to manipulate buttons.

The clown may be placed in front of the child in any position and then moved nearer or further away as desired.

Each buttonhole is placed on a different slant so that the child can be taught to turn the button to correspond with the slant.

The box forming the easel stand (see diagram) will catch the buttons as they are pushed through.

Directions: The clown is cut from one-quarter inch plywood, and eyes, nose and mouth are cut out. Paint the clown white; hat and eyebrows, black; lips, red and ruff, green.

The buttons are cut from one-eighth inch ply-

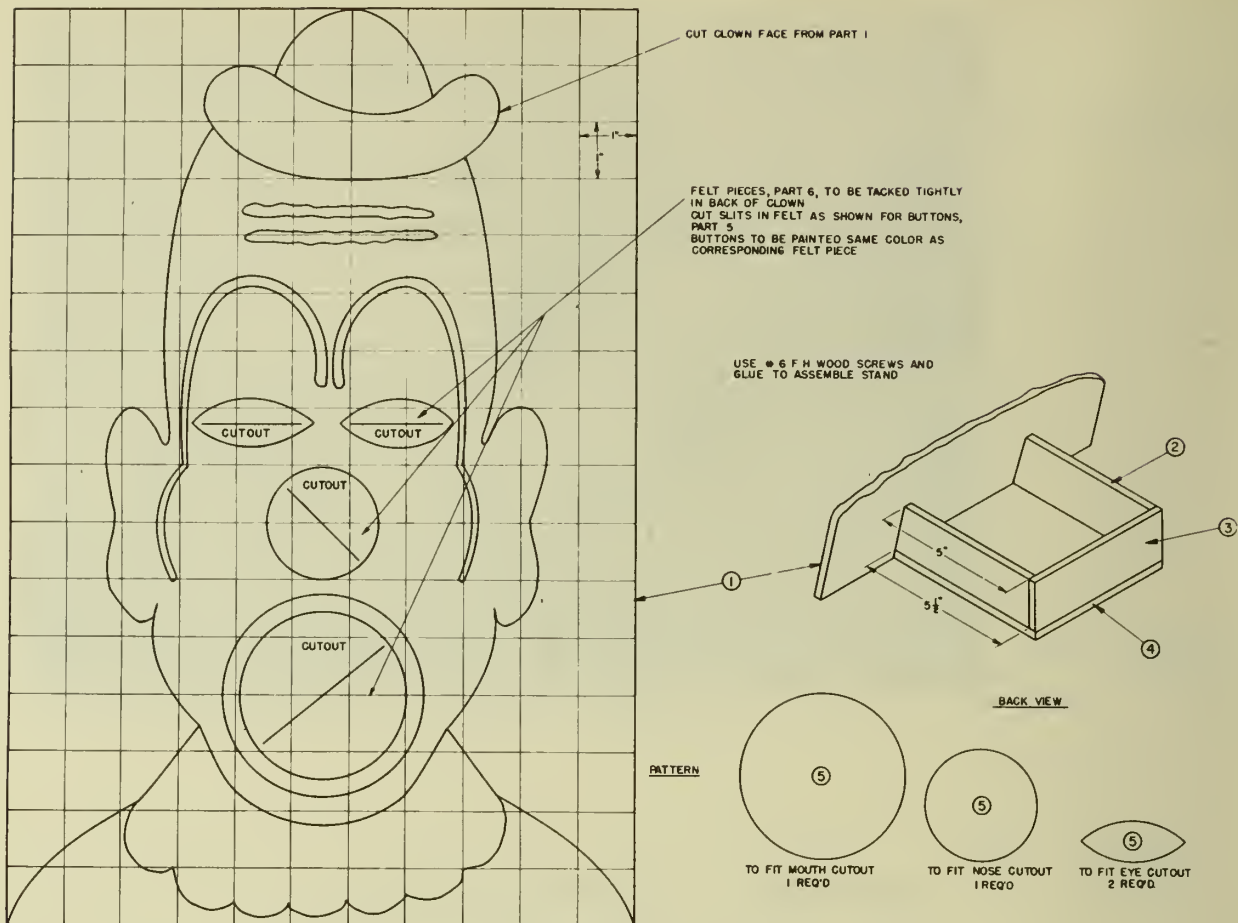
wood—two for the eyes, one for the nose, and one for the mouth. Paint the buttons to match the corresponding features.

The box is cut from one-quarter inch plywood and finished with waterproof varnish. It is fastened securely to the back of the clown with glue and screws.

Cut the felt scraps to shape slightly larger than the features, and tack them tightly to the back of the head, so that some force is necessary to push the buttons through. The eyes should be one color, the nose another and the mouth a third, with the buttons painted to correspond.

Cut a buttonhole (slit) in each scrap of felt, just large enough for the corresponding button to go through.

DRESSING AID: BUTTON CLOWN



BILL OF MATERIALS

Part No.	Name of Part	No. Required	Material	Remarks
1	Clown	1	Plywood	3/8" x 11" x 16"
2	Stand Sides	2	Plywood	3/8" x 1 3/4" x 5 1/2"
3	Stand End	1	Plywood	3/8" x 1 3/4" x 5"
4	Stand Bottom	1	Plywood	3/8" x 5" x 5 3/4"
5	Buttons	4	1/8" Plywood	See Details
6	Eyes, Nose, Mouth — 3 different colors of Felt.			

New York State Rehabilitation Hospital, West Haverstraw, N. Y.

DRESSING AID: MONTESSORI BOARDS



Learning to tie a bow.

Children's Rehabilitation Institute, Cockeysville, Md.

DRESSING AID: MONTESSORI BOARDS

Occupational Therapy—Special Education

Montessori-type boards may be useful in teaching dressing and grooming activities. Clamped flat on the table or on an upright frame, they can be put in whatever position is easiest for the child. As his control improves, they can be changed gradually to the correct position for the specific activity.

Montessori boards are an important aid in: (1) learning the bodily control required to carry out an activity skillfully and quickly and (2) learning a dressing activity.

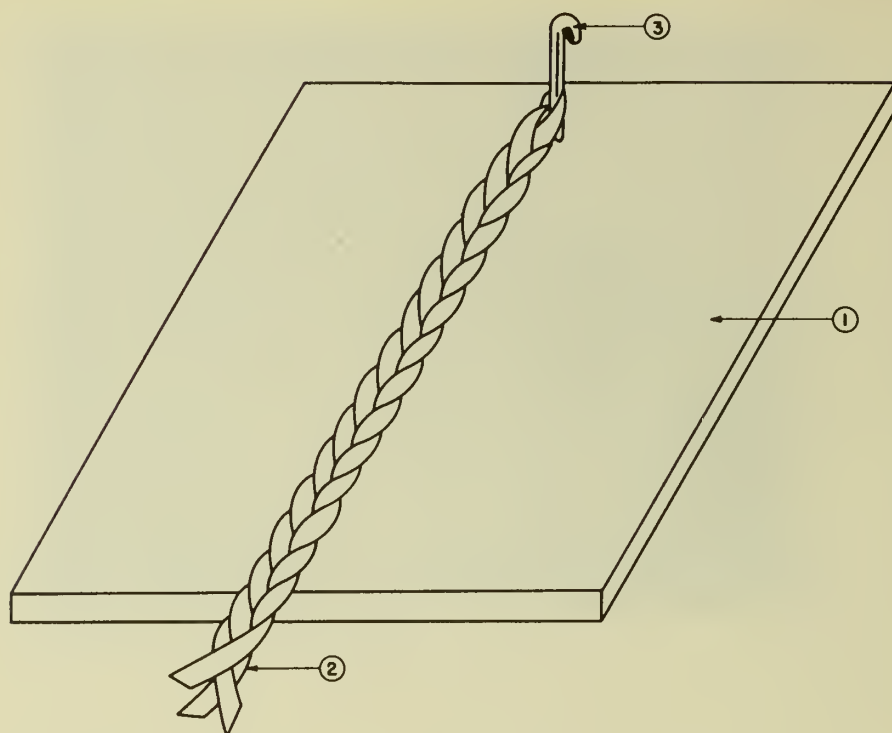
Much valuable practice may be given in the classroom with Montessori boards after the occupational therapist has taught the cerebral palsied child what to do and how to do it. The aims of treatment such as relaxation, increase in speed or development of eye-hand coordination supersede the functional activity.

A set of Montessori boards may include:

belts	buttons	neckties
bobby-pins	garters	one-half bows
bows	hooks	safety pins
braiding	knots	snap
buckles	lacing	zippers

Materials and directions: Montessori-type boards may be made out of one-half inch pine or plywood or any composition board which will hold screws and thumbtacks. They can be 10 to 14 inches square, or planned to fit specific work tables or trays. If they are to be clamped to a table, they should be long enough so that the clamp can be placed opposite the child, out of reach of his arm swing (especially for athetoids). The boards should have a washable waterproof finish. Use non-poisonous paint. All attached material should be washable. Any fabrics used for Montessori boards should be of sturdy material, in clear colors. No glaring or confusing patterns should be used.

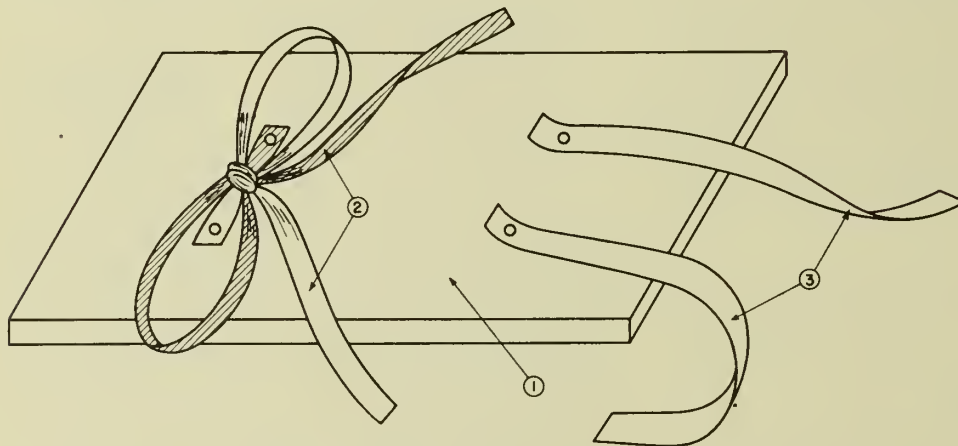
DRESSING AID: MONTESSORI BOARDS



BRAIDING BOARD

BILL OF MATERIALS				
Part No.	Name of Part	No. Required	Materials	Remarks
1	Base	1	Plywood	$\frac{1}{2}$ " x 14" x 14"
2	Braids	3	$\frac{3}{4}$ " Ribbon	3 different colors, 20" Long
3	Hook or Eye	1	Metal	

Sigma Gamma Hospital School, Detroit Orthopaedic Clinic,
Mt. Clemens, Mich.

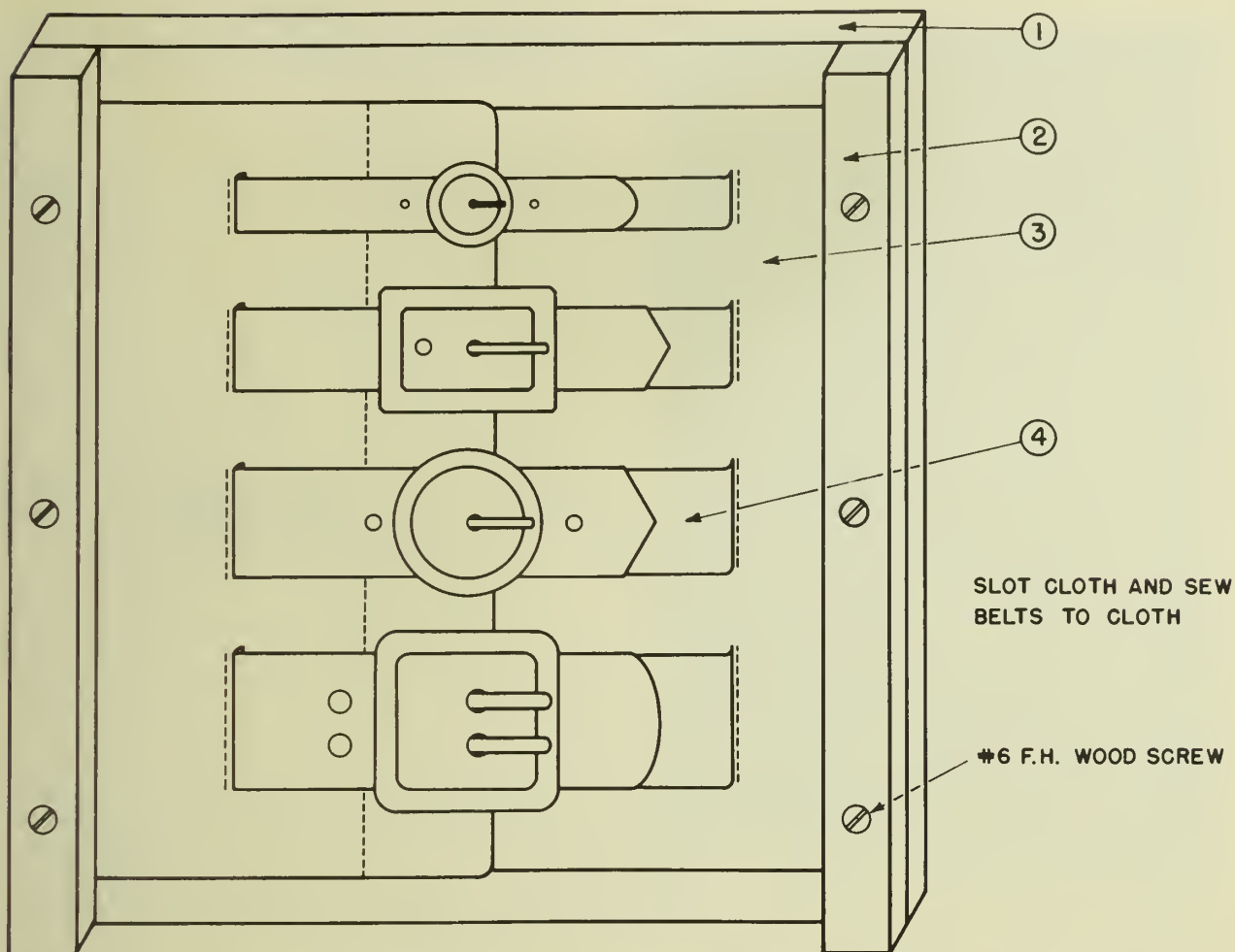


BOW BOARD

BILL OF MATERIALS				
Part No.	Name of Part	No. Required	Material	Remarks
1	Base	1	Plywood	$\frac{1}{2}$ " x 6" x 12"
2	Long Ribbons	2	$\frac{3}{4}$ " Grosgrain Ribbon	18" Long, 2 different Colors
3	Short Ribbons	2	$\frac{1}{2}$ " Grosgrain Ribbon	9" Long

Children's Rehabilitation Institute, Cockeysville, Md.

DRESSING AID: MONTESSORI BOARDS



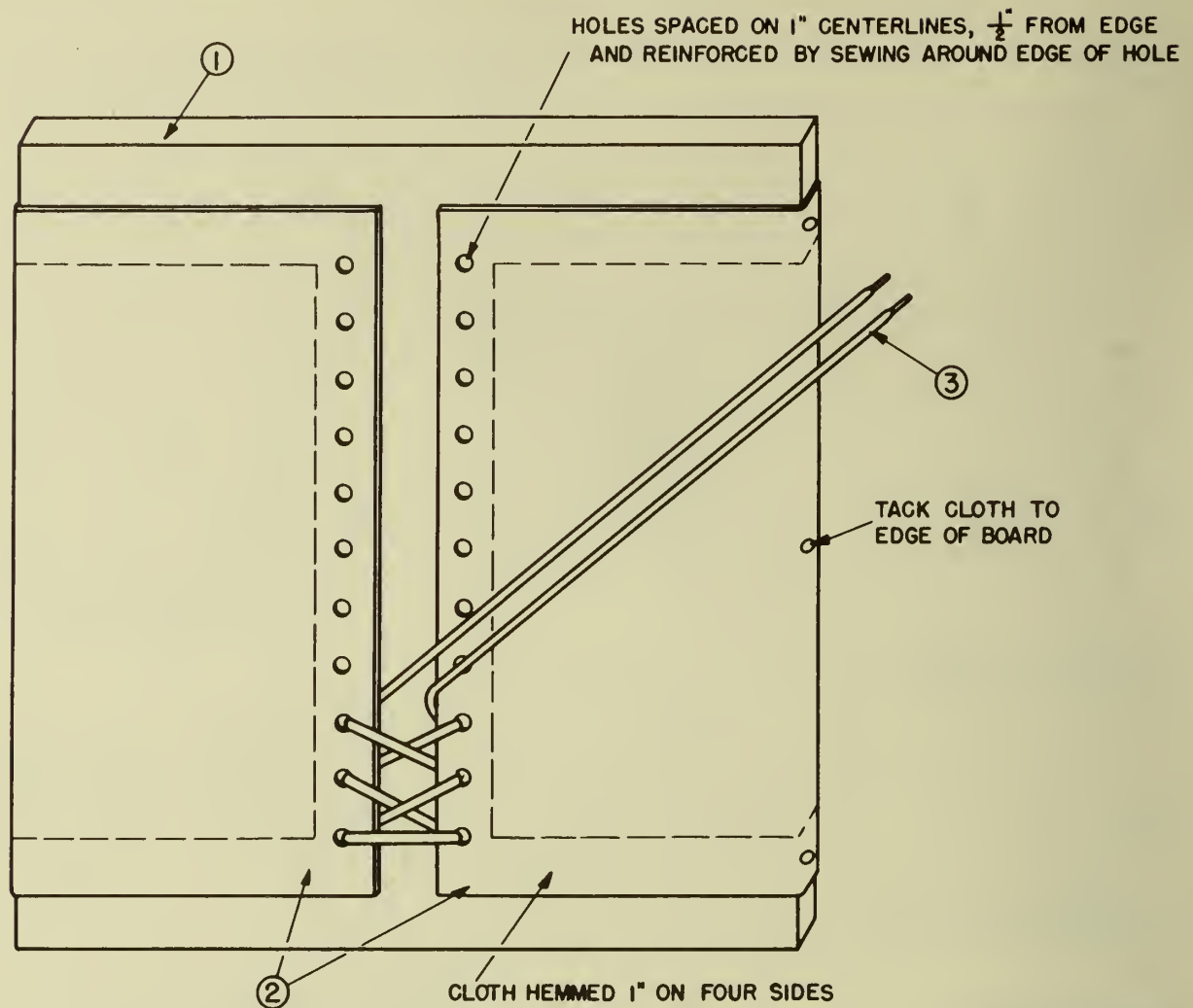
BUCKLE BOARD

BILL OF MATERIALS

Part No.	Name of Part	No. Required	Material	Remarks
1	Base	1	Plywood	$\frac{1}{2}$ " x 14" x 14"
2	Clamps	2	Plywood	$\frac{1}{2}$ " x 1" x 14"
3	Cloth for Belts	2	Heavy Cloth Canvas	8" x 13", Finished
4	Belts and Buckles	4		Various Sizes

Children's Hospital Society, Los Angeles, Calif.

DRESSING AID: MONTESSORI BOARDS



BILL OF MATERIALS

Part No.	Name of Part	No. Required	Material	Remarks
1	Base	1	Plywood	$\frac{1}{2}$ " x 14" x 14"
2	Lacing Cloth	2	Heavy Cloth	9" x 14"
3	Long Shoe Lace	1		

LACING BOARD

Rehabilitation Center for the Physically Handicapped, Inc., Stamford, Conn., a Chapter of the Connecticut Society for Crippled Children and Adults, Inc.

DRESSING AID: SHOES, PRACTICE



Learning to lace one's shoes should progress by easy stages.

Children's Rehabilitation Institute, Cockeysville, Md.

DRESSING AID: PRACTICE SHOES

Occupational Therapy

After the cerebral palsied child has learned to handle lacers (refer to *Long Tipped Lacers*), he can then progress to the first stage of learning to lace his shoes. First he must be taught the technique of shoe lacing and then he must develop the physical control to carry it out skillfully and quickly. Lacers of different colors help the child to comprehend the technique. A wooden shoe simplifies the physical difficulties.

The wooden shoe (illustrated) has low, rigid sides with large holes. The sides are wide apart so that the child's entire fist grasping the lacer may be placed between them.

When the wooden shoe has been mastered, a

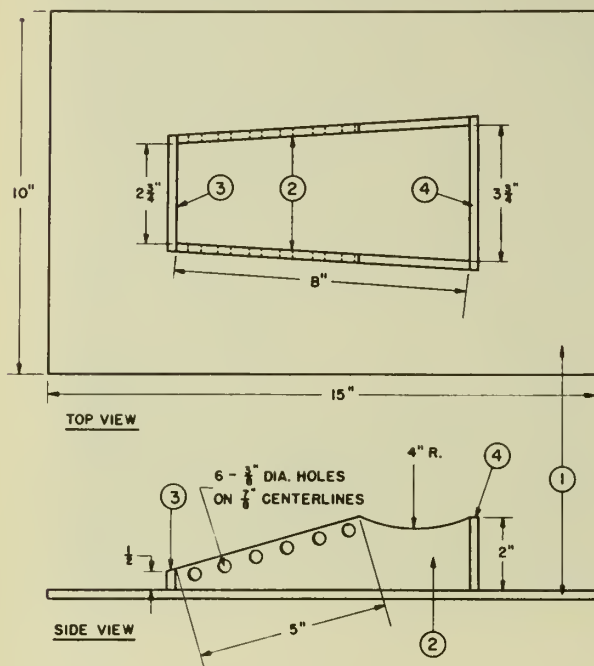
leather shoe (not illustrated) may be used. This presents the problem of smaller holes in sides which are not rigid, but which are movable, and therefore must be held open while the lacer is being put through the hole. Care should be taken in selecting the shoe for this purpose. If lined, the holes should have metal eyelets. In a lined shoe without eyelets, the lacer may catch between the two layers of leather.

Both the wooden shoe and the leather shoe may be attached to a plywood base which should extend beyond the toe and heel so that it can be clamped to the work surface. For practice, the shoe should be placed with the toe pointed away from the child.

DRESSING AID: SHOES, PRACTICE

Wooden Shoe

Directions: Construct according to diagram, changing dimensions to suit the size of the children who will use it. Use bright colored non-poisonous enamel to finish this shoe.



REMOVE ALL SHARP EDGES AND CORNERS
USE NAILS AND GLUE TO ASSEMBLE PARTS

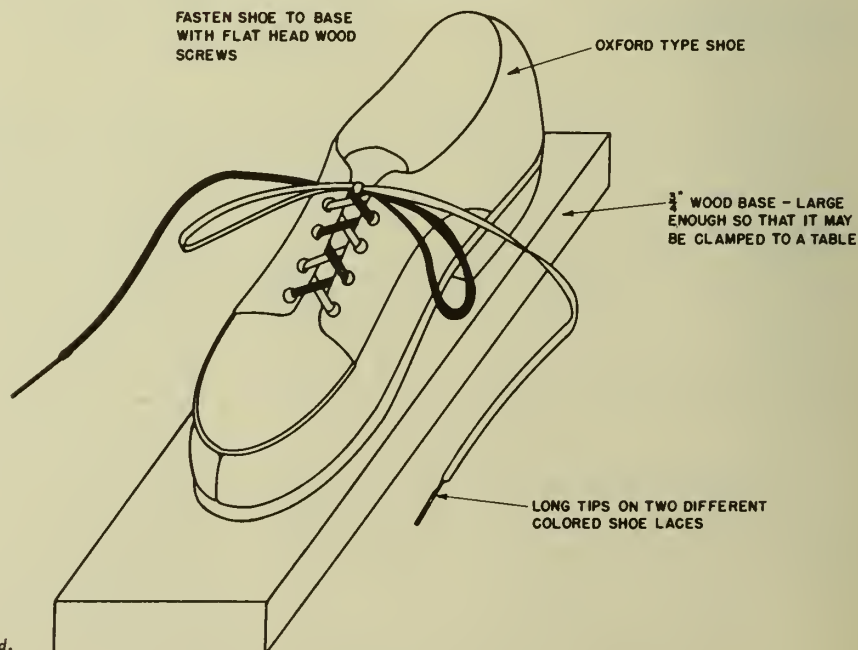
Leather Shoe

Directions: Use the type of shoe the child wears. An old one is satisfactory. Average-to-large holes are preferable. For small children, the shoe may be painted with a bright colored non-poisonous enamel.

BILL OF MATERIALS

Part No.	Name of Part	No. Required	Materials	Remarks
1	Base	1	Plywood	$\frac{1}{4}$ " x 10" x 15"
2	Sides	2	Plywood	$\frac{1}{4}$ " x 2" x 8"
3	Front End	1	Plywood	$\frac{1}{4}$ " x $\frac{5}{8}$ " x 3"
4	Back End	1	Plywood	$\frac{1}{4}$ " x 2" x $4\frac{1}{4}$ "

FASTEN SHOE TO BASE WITH FLAT HEAD WOOD SCREWS



Children's Rehabilitation Institute, Cockeysville, Md.

DRESSING AID: SHOE, LARGE PRACTICE



Teaches child to lace his own shoe.

Children's Rehabilitation Institute, Cockeysville, Md.

DRESSING AID: LARGE PRACTICE SHOE

Occupational Therapy

When the cerebral palsied child has been taught how to lace practice shoes (refer to *Dressing Aid: Practice Shoes*) and has developed enough skill to do it satisfactorily, he then must learn to lace his shoes on his feet.

This large practice shoe is made without any back, so that the child can slip his foot into it easily with his shoe on. Rigid sides, large holes and long tipped lacers make the lacing process simple enough so that the child can concentrate on maintaining his balance while he leans down

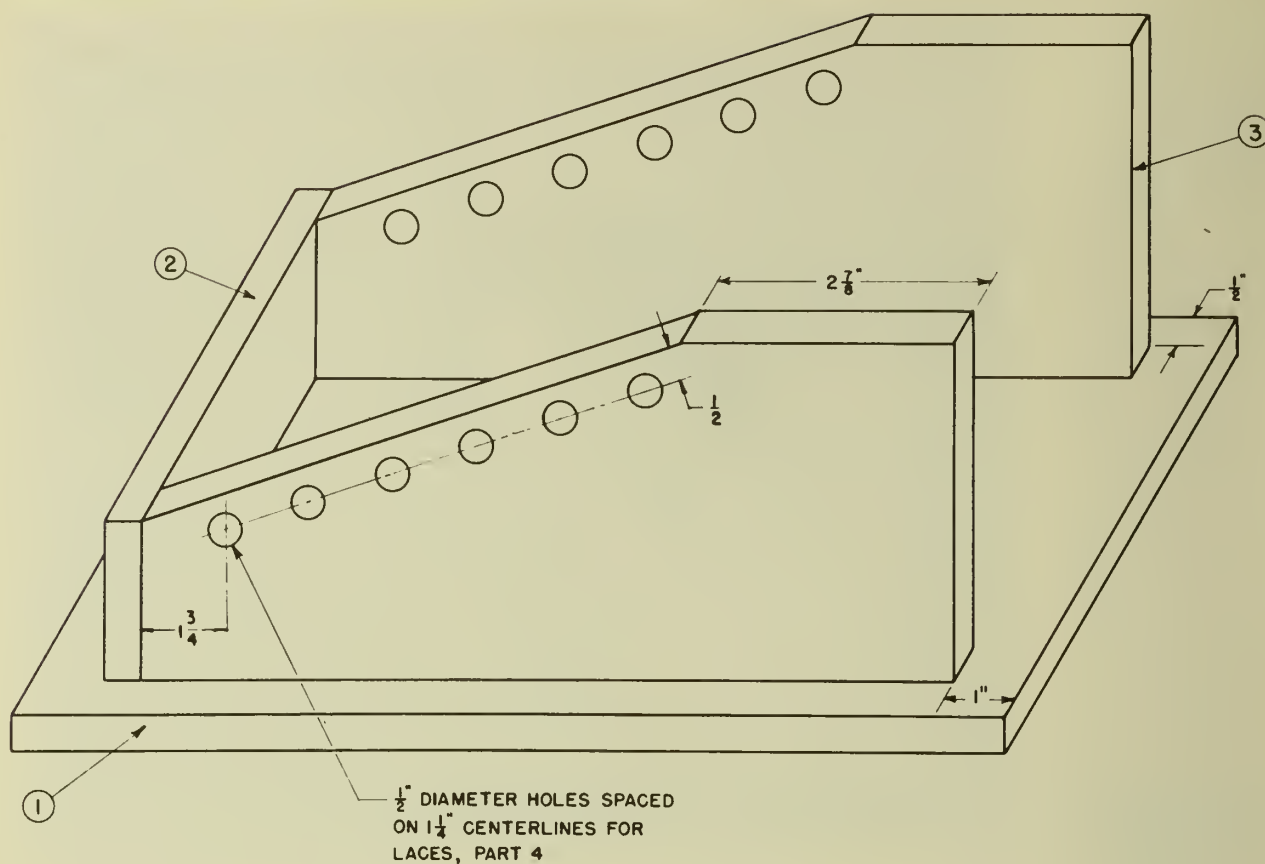
to lace his shoe. As he increases in skill, he can progress to his own shoes, using first long tipped and then regular lacers.

This shoe may be used on a table for children with poor balance.

Directions: Paint with non-poisonous enamel. Use one red and one white lacer with two-inch tips, gradually cutting the tips down to five-eighths inch. Rubber strips on the bottom of the shoe will keep it from slipping on the floor.

No. 50

DRESSING AID: SHOE, LARGE PRACTICE



BILL OF MATERIALS

Part No.	Name of Part	No. Required	Material	Remarks
1	Base	1	Wood	1/2" x 6 1/2" x 14 1/2"
2	Front	1	Wood	1/2" x 2 1/4" x 5 1/2"
3	Side	2	Wood	1/2" x 4 3/4" x 12"
4	Laces	2	Two different colors with 2" firm tip	

Children's Rehabilitation Institute, Cockeysville, Md.

EASEL, PAINTING



Painting provides an opportunity for creative expression.

Potomac Engineering Corporation, Chicago, Ill.

PAINTING EASEL

General Equipment

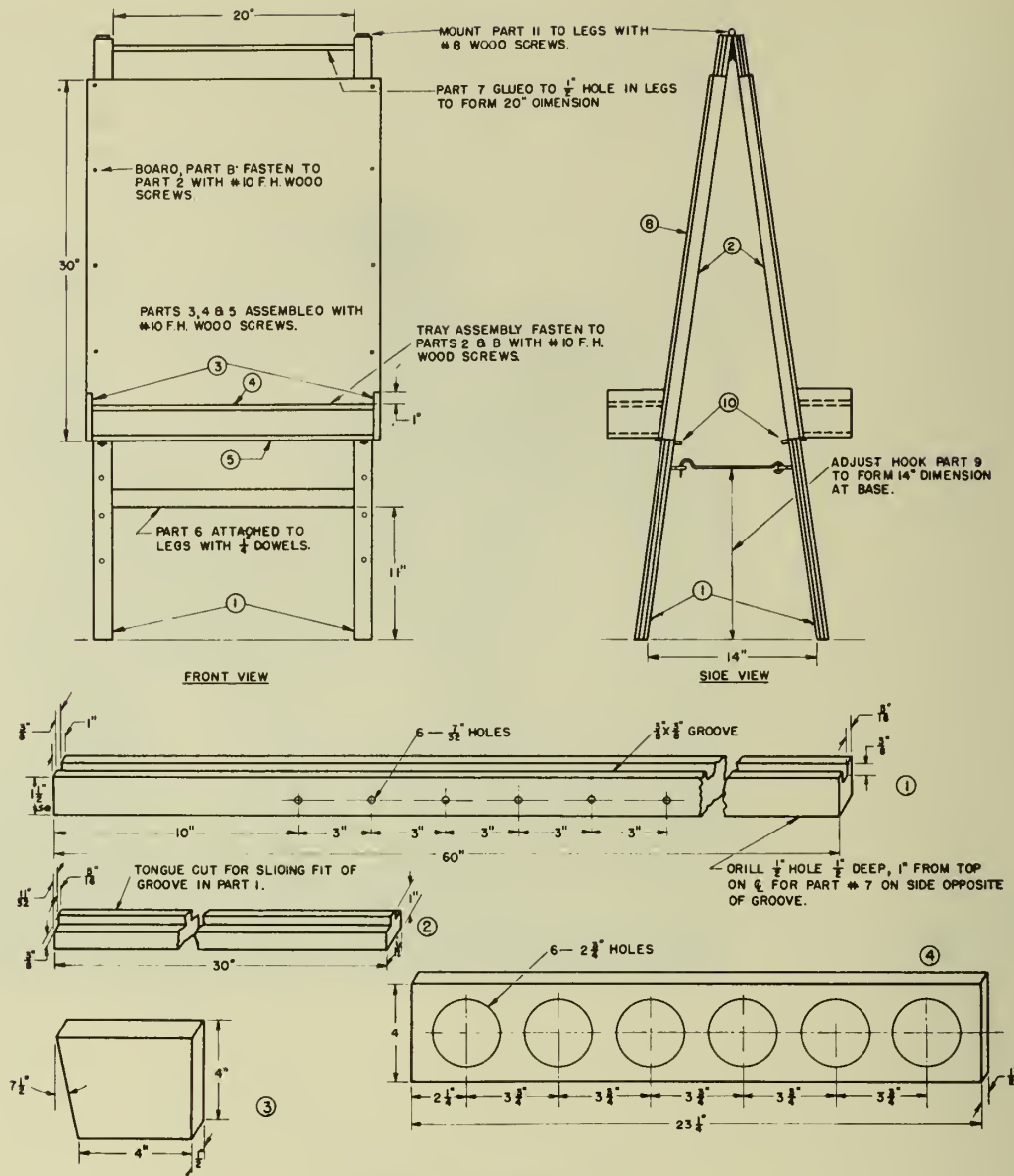
Painting at an easel provides opportunity for creative expression, motivation for standing experiences and training for hand, eye and perceptual faculties. Through a series of stages in experiments with paint, the child becomes acquainted with color, form, arrangement and designs.

Adjustable legs allow the easel to be adapted to various heights for a child either standing or sitting. A handle attached to the side of the easel board provides standing security.

The easel may be used as a rack for a large reading book, printed material or to hold a blackboard.

No. 51

EASEL, PAINTING



BILL OF MATERIALS

Part No.	Name of Part	No. Required	Material	Remarks
1	Leg	4	Birch	See Detail
2	Board Slider	2	Birch	See Detail
3	Tray Side	4	1/2" Pine	See Detail
4	Tray Holder	1	1/2" Pine	See Detail
5	Tray Bottom	1	1/2" Pine	22 1/4" x 4"
6	Leg Spacer	2	1/2" Pine	23" x 1 1/2"
7	Dowel Rod Spacer	2	Pine	1/2" x 21"
8	Board	1	1/4" Plywood	24 1/4" x 30"
9	Hook & eye brace	2	Steel	Approx. 9" Long
10	Support Bolts	4	Steel	Wing Bolts 3/16" x 1 1/4"
11	Hinge	2	Steel	1" Wide

FEEDING AID: ADAPTED SPOONS



Children's Rehabilitation Institute, Cockeysville, Md.

Specially shaped spoons may assist child in learning to feed himself.

FEEDING AID: ADAPTED SPOONS

Occupational Therapy

The ability to feed oneself involves control of the head and mouth, the neck and shoulders, and the elbow, wrist and fingers. If one or more parts do not function normally, there are certain adaptations that can be made in feeding utensils which will enable the child to start learning to feed himself while he is being taught necessary control. Certain cups* may make it easier for him to manage liquids. Candy, plastic and paper straws* are a help in teaching control of the lips and tongue. A feeding cast eliminates the necessity for wrist and finger control.

Spoons A and A-1 fit over the child's hand and no grasp is needed to keep them in place. Spoons B and B-1 are shaped so that they do not turn in the child's grasp. A curve, such as that in the handle of spoon C, makes the spoon easy to pick up. Spoon D is specially shaped for the child who lacks full pronation. Spoon E and fork E-1, with extra long handles, are for the child whose elbow control is poor, and who

must start his practice using pronation and supination only.

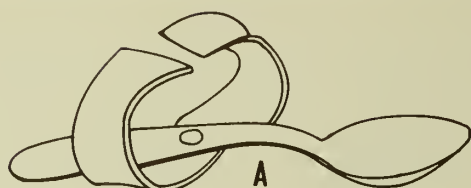
Some of these spoons are to be held with a baby grasp, and some are to be held between thumb and fingers in the conventional adult manner. In addition to curves in the handles, the bowls may be bent down to facilitate eating in certain cases, particularly where the neck and shoulder control is poor. The utensils shown merely indicate the possibilities. Be sure that the finished spoon fits the child for whom it is designed.

Materials and directions: Spoons can be adapted by means of wood, metal or plastic. Choose spoons with small, medium or large bowls as suited to the child. Be sure the bowls are smooth. Handles may be built up with wood or plastic, or metal can be riveted on.

Caution: All materials used with spoons must be smooth and non-splintering. Finished adapted spoons must be able to withstand hot dishwater.

*See *Commercial Listing*.

FEEDING AID: ADAPTED SPOONS



Plastic clip goes around thumb and first finger when a child holds the spoon in the conventional manner, but lacks skill or power to hold it securely.



This fits across the palm of the hand when a child has too weak a grasp.



Round handle prevents the spoon from turning in a child's hand. Used when the spoon is held with "baby grasp."



When the spoon is held in the conventional manner this clip is added to prevent it from turning in the child's hand.



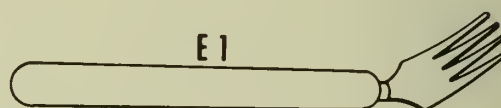
A slight curve in the handle allows child to pick the spoon up off the table more easily.



Handle is bent in this manner for a child who must use a "baby grasp" yet lacks full pronation.



The use of a long-handled spoon makes it possible for a child to feed himself, even though elbow flexion and extension are limited.



When the child is ready, a long-handled fork may be substituted for the long-handled spoon.

Children's Rehabilitation Institute, Cockeysville, Md.

FEEDING AID: FEEDING BOARDS



Eliminates the possibility of pushing dishes off the table.

Cerebral Palsy Treatment Center, Franklin County Society for Crippled Children, Columbus, Ohio

FEEDING AID: FEEDING BOARDS

Occupational Therapy

A feeding board may be useful for both physical and psychological reasons. It holds the dish, cup or glass securely, thus preventing the child from accidentally knocking them over or pushing them on the floor. It also eliminates the fear of doing this. Some children are delayed in learning to feed themselves because of fear that they will break the china or spill their food. Like most adapted equipment, the feeding board is a temporary measure, but it often fills a need during a certain stage of training.

Individual Feeding Board. An individual feeding board should be made to fit inside the rim of the child's work table or it can be clamped to the table. (See illustration above.) It should have a hole cut for the plate and for the glass or cup.

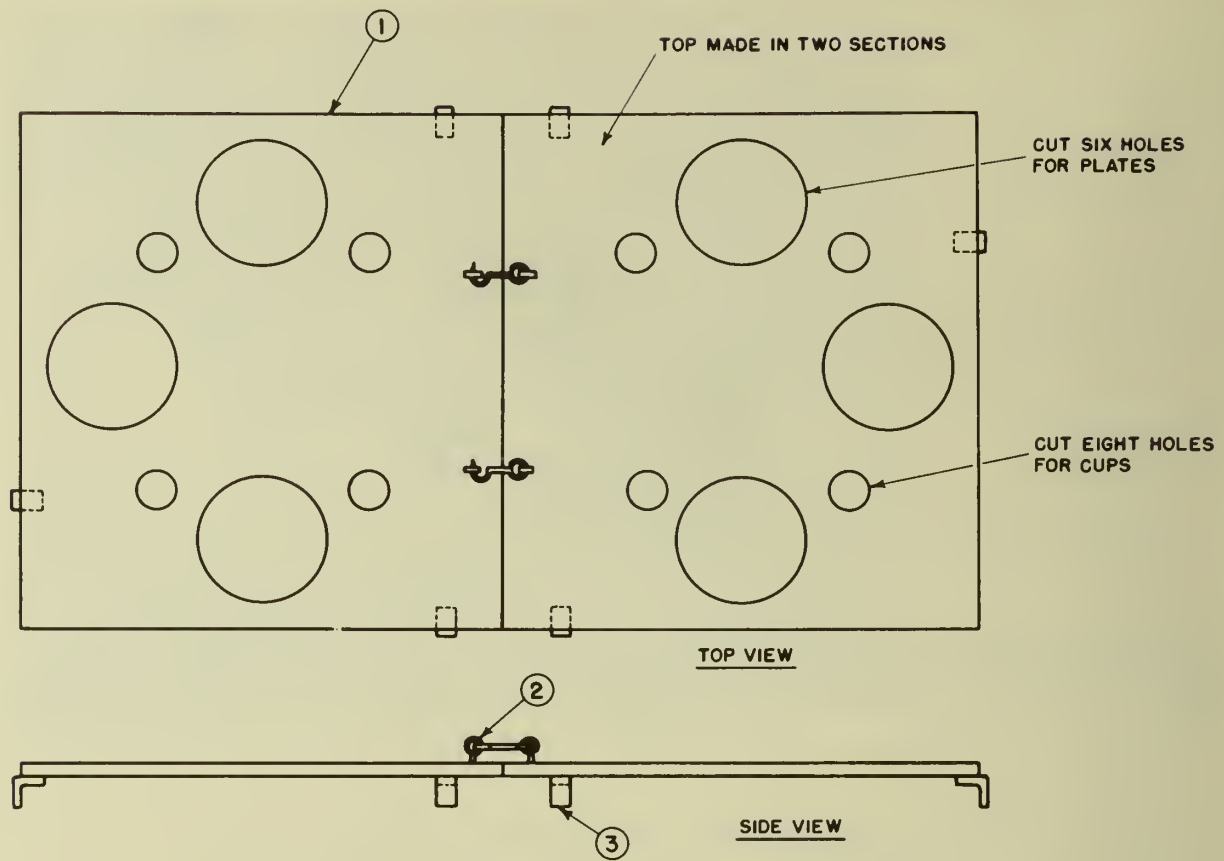
In the clinic, the feeding board should be re-

versible; that is, the holes should be cut all the way through. Then the same board may be used for both left and right handed children.

Multiple Feeding Board. Where there are several children in the same stage of learning to feed themselves, a multiple feeding board may be fastened to a table in the dining room. The multiple feeding board (illustrated by diagram) has holes for cups placed at equal distance from the plates so that each place may be used for a left or right handed child. It is of great help in socialization as well as in teaching table manners for those who have a fair degree of control in feeding.

Directions: Feeding boards should be made to fit the tables, dishes and cups or glasses with which they are to be used. The surface should be smooth and have a waterproof finish.

FEEDING AID: FEEDING BOARDS



BILL OF MATERIALS				
Part No.	Name of Part	No. Required	Material	Remarks
1	Top	1	$\frac{3}{8}$ " Plywood	To fit top of table
2	Hook Eye Bolts	2	Steel	
3	Clips	6	$\frac{1}{8}$ " Steel	1" x 1" x 1" Angle

Crippled Children's Hospital School, Memphis, Tenn.

FLANNEL BOARD



This board helps to provide a motivation for speech and the use of language.

University of Illinois Speech Clinic, Urbana, Ill.

FLANNEL BOARD

Speech—Special Education

Flannel cut-outs representing children's stories and rhymes can be very effective when they are pressed against a felt background. The arrangements may be assembled as the narrative progresses, providing a changing stimulation rather than a static one.

The flannel board also can be used effectively

for motivation in reading, number work and social studies.

Materials needed:

board

flannel or felt

felt or magazine cut-outs (flannel glued to back)

glue (to attach flannel or felt to board)

No. 54

FOOT CLAMP BOARD



A simple device to maintain a cerebral palsied child's feet in good position.

Hartford County Rehabilitation Work Shop, Inc., a Chapter of the Connecticut Society for Crippled Children and Adults, Inc., Hartford, Conn.

FOOT CLAMP BOARD

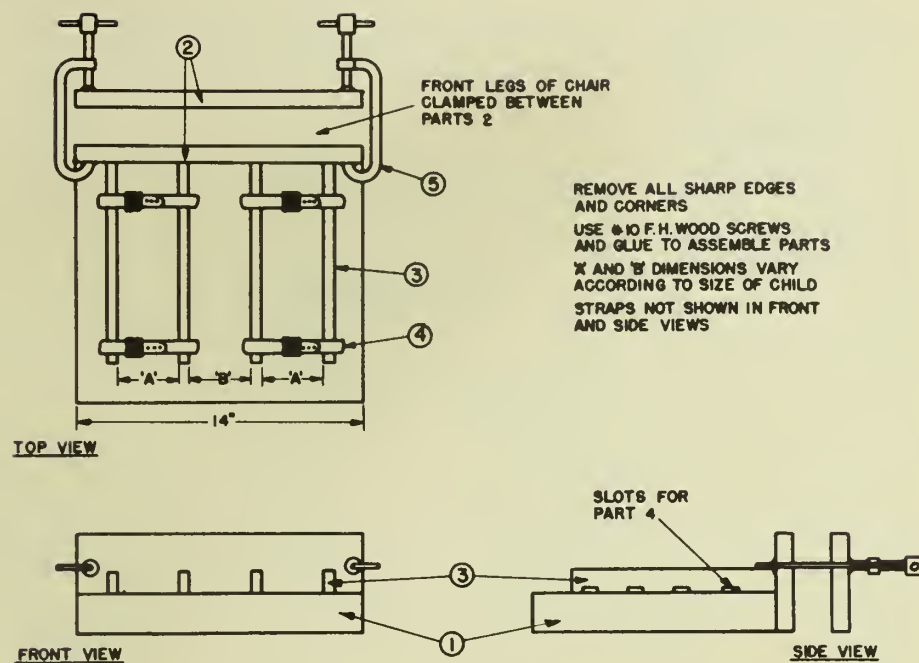
Occupational Therapy—Physical Therapy

Many cerebral palsied children cannot control involuntary movement in their legs. In order for training in arm use to proceed, some means must be found to keep the legs quiet during treatment. Sitting balance training also will be aided if the lower extremities are controlled. Sandbags may be used (refer to *Sandbags*) or a device

such as that illustrated above. Whatever is used must act as a reminder to the child to relax.

The foot clamp board is made of plywood. The lower piece is three-quarters inch thick, the upper pieces are one-quarter inch thick. The cut-outs in the upper part extend one-eighth inch over the flange of the child's shoe sole, holding the foot in place.

FOOT FIXATION BOARD



Secure stabilization of feet is important.

Association for the Aid of Crippled Children, New York, N. Y.

FOOT FIXATION BOARD

Occupational Therapy—Physical Therapy

Foot fixation and control during sitting balance training or seated activities are recognized as essential to the progress of the individual being treated. Usually, athetoid hands work better if the lower extremities are controlled and sitting balance is easier to accomplish if the feet are stabilized.

This foot fixation board provides stalls into which each foot is strapped securely. A separate piece of board, the same width as the fixation

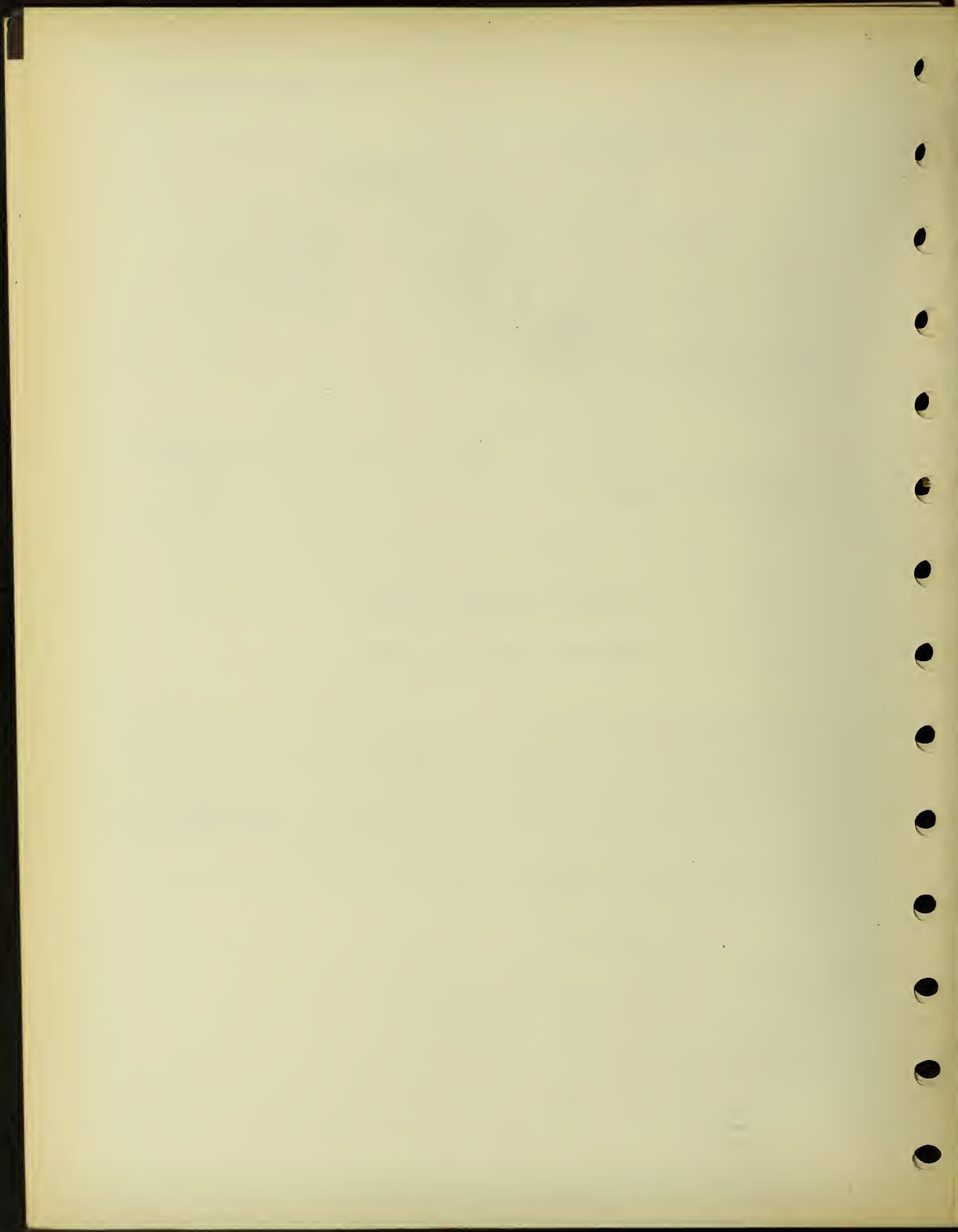
board, is placed behind the front legs of the chair. When the two pieces are clamped together, the chair is held firmly between them.

The feet are strapped in the stalls, one strap at the heel and the other across the forefoot. It is suggested that the buckles be placed on the outside for ease in fastening.

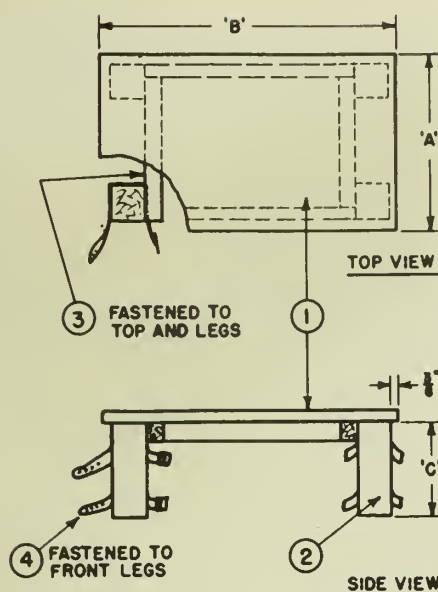
Measurements must be according to individual needs.

BILL OF MATERIALS

Part No.	Name of Part	No. Required	Material	Remarks
1	Base	1	Wood	2" x 12" x 14"
2	Clamping Boards	2	Wood	7/8" x 5" x 14"
3	Cleats	4	Wood	1/2" x 1" x 10"
4	Straps with Buckles	4 sets		
5	U-Clamps	2	Steel	



FOOTSTOOLS



REMOVE ALL SHARP EDGES AND CORNERS

USE #10 F.H. WOOD SCREWS AND GLUE TO ASSEMBLE PARTS

'A' DIMENSION EQUALS LENGTH OF CHILDS FOOT PLUS 2 INCHES

'B' DIMENSION EQUALS WIDTH OF CHAIR

'C' DIMENSION EQUALS HEIGHT OF STOOL REQ'D MINUS 7/8 INCH

Stabilized foot supports are effective.

Association for the Aid of Crippled Children, New York, N. Y.

FOOTSTOOLS

Physical Therapy—Occupational Therapy

Refer to *Combination Chair Stabilizer and Footstool* for discussion on use of foot supports. Four useful designs are included here. All have improvisations for attachment to a chair.

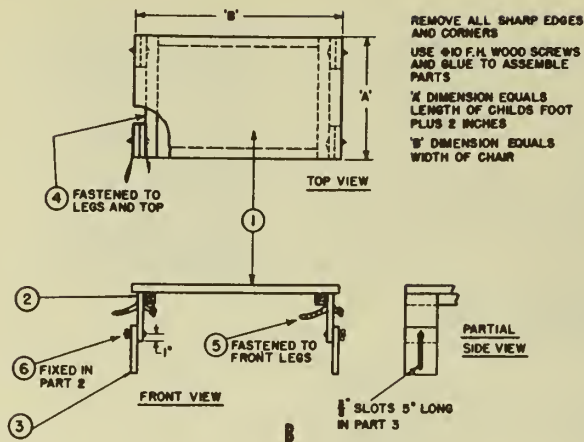
Stool A is for a 90° angle support. Stool B may be adjusted to any angle by raising or lowering the front legs. Straps are attached for securing stool to front legs of chair.

Stools C and D are made slightly wider than the chair. Holes, the size of front legs of the chair, are cut in the back corners of the top of the stool so that the chair legs can be inserted. Stool C is for 90° angle support. Stool D may be sloped to correspond to the slope of the seat in a relaxation chair or used with a standard chair to give some stretching to a tight heel cord.

BILL OF MATERIALS

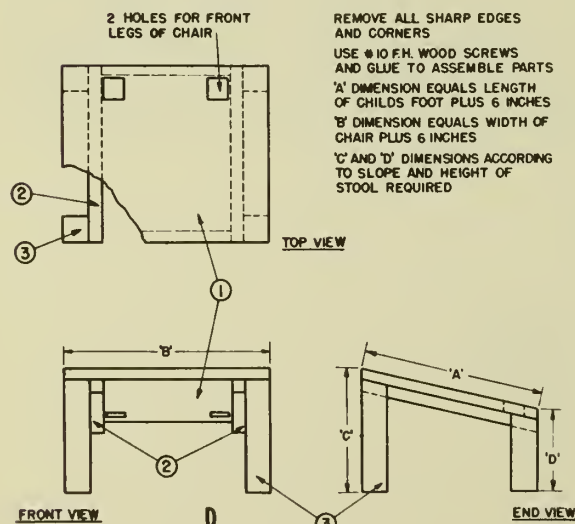
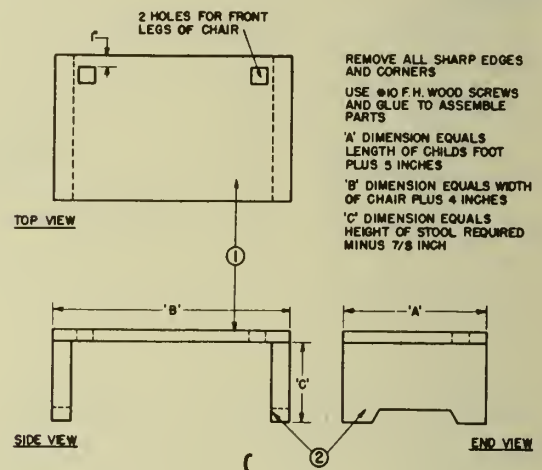
Part No.	Name of Part	No. Required	Material	Remarks
1	Top	1	Wood	7/8" Thick
2	Legs	4	Wood	2" x 2"
3	Leg Supports	4	Wood	1" x 1"
4	Straps with Buckles	4 sets	Leather	

FOOTSTOOLS



BILL OF MATERIALS—B				
Part No.	Name of Part	No. Required	Material	Remarks
1	Top	1	Wood	$\frac{7}{8}$ " Thick
2	Fixed Legs	4	Wood	$\frac{3}{4}$ " x 4" x 6"
3	Adjustable legs	4	Wood	$\frac{3}{4}$ " x 4" x 6"
4	Leg Supports	4	Wood	1" x 1"
5	Straps with Buckles	2 sets	Leather	
6	$\frac{3}{8}$ " Carriage Bolt & Wing Nut	4 sets	Steel	

BILL OF MATERIALS—C				
Part No.	Name of Part	No. Required	Material	Remarks
1	Top	1	Wood	$\frac{7}{8}$ " Thick
2	Sides	2	Wood	1 $\frac{1}{2}$ " Thick



BILL OF MATERIALS—D				
Part No.	Name of Part	No. Required	Material	Remarks
1	Top	1	Wood	$\frac{7}{8}$ " Thick
2	Leg Supports	4	Wood	1" Thick, 1" Wide
3	Legs	4	Wood	2" Thick, 2" Wide

Association for the Aid of Crippled Children, New York, N. Y.

FORM BOARD



Easily grasped wooden cut-outs motivate object-naming and story telling.

University of Illinois Speech Clinic, Urbana, Ill

FORM BOARD

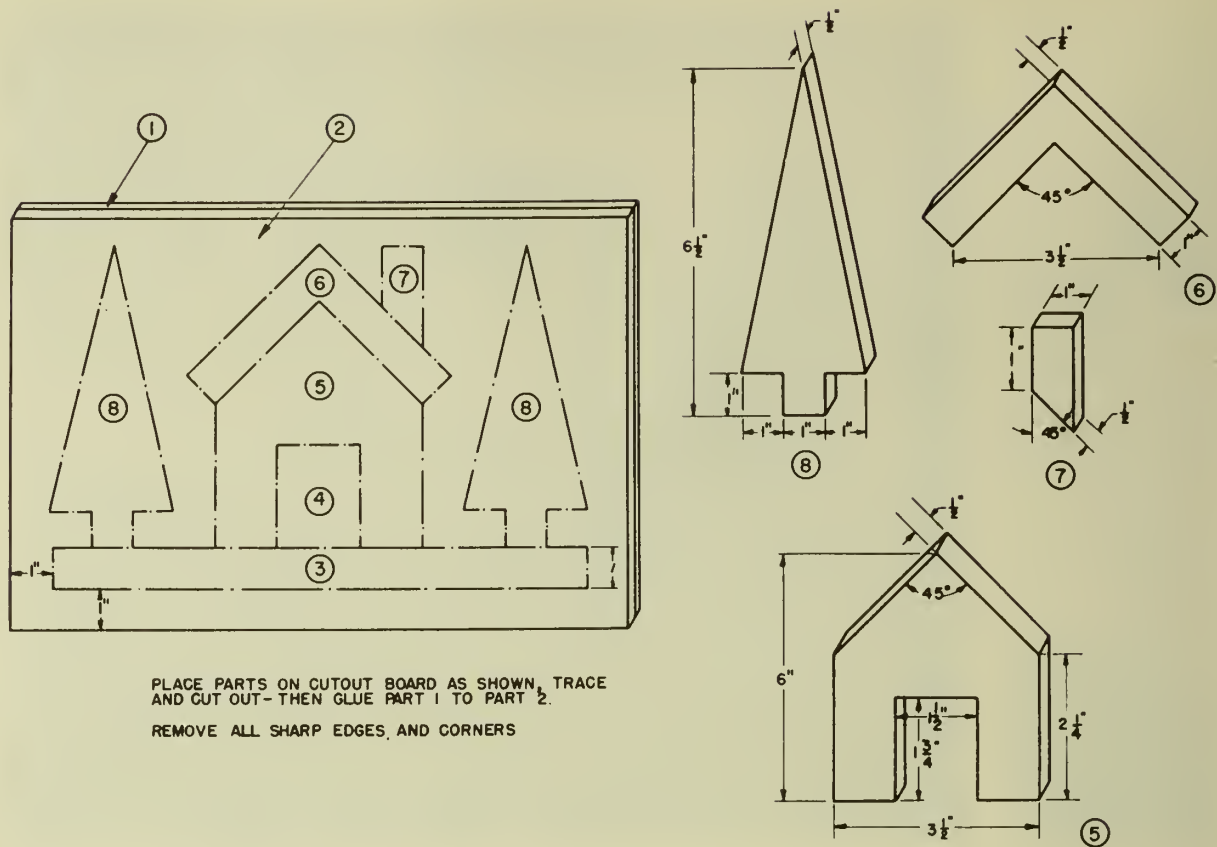
Speech—Special Education—Occupational Therapy

Any realistic form board provides a situation for motivating speech and language. The activity involved in assembling the boards offers opportunities for naming parts and discussing their

structural relationships. Form boards centering around children's stories or stories woven around form boards increase the possibilities for stimulation.

No. 58

FORM BOARD



BILL OF MATERIALS

Part No.	Name of Part	No. Required	Material	Remarks
1	Base	1	Plywood	$\frac{1}{8}$ " x 10" x 15"
2	Cut out Board	1	Plywood	$\frac{1}{4}$ " x 10" x 15"
3	Hedge	1	Plywood	$\frac{1}{2}$ " x 1" x 13"
4	Door	1	Plywood	$\frac{1}{2}$ " x $1\frac{1}{2}$ " x $1\frac{3}{4}$ "
5	House	1	Plywood	See Detail
6	Roof	1	Plywood	See Detail
7	Chimney	1	Plywood	See Detail
8	Trees	2	Plywood	See Detail

University of Illinois Speech Clinic, Urbana, Ill.

GADGET BOARD



A two-sided gadget board offers practice in manipulation of familiar objects encountered daily.

Clinic School for Cerebral Palsied Children, Philadelphia Society for Crippled Children and Adults, Philadelphia, Pa.

GADGET BOARD

Occupational Therapy

Many objects in our homes are difficult for the handicapped to manage—telephone, door knobs, light switches, faucets, etc. An assortment of such articles attached to a board provides an opportunity for practice in manipulation.

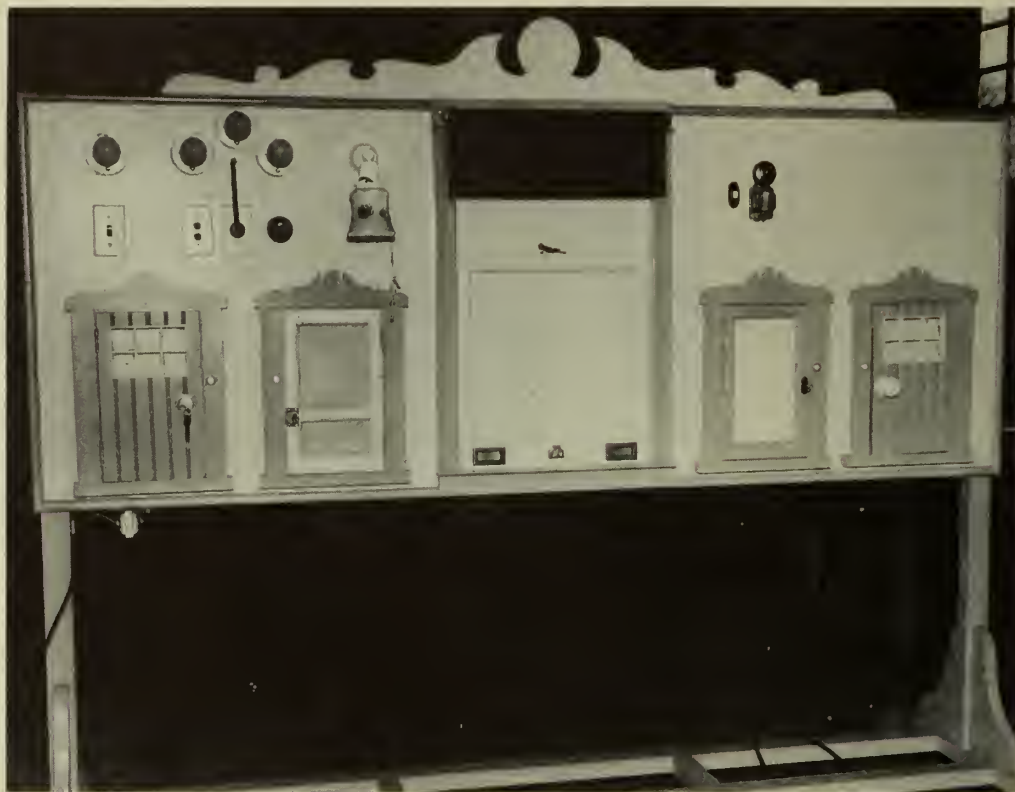
The board illustrated is approximately eight feet by three feet. It is wired so that the bulbs light up and the door bells ring when the patient is successful.

The board should be attached to the wall or to a standard in such a way that it can be raised or lowered according to the position or height of the patient.

Suggested items for the board:

- Telephones: desk type, coin box type
- Light switches: push, pull, rotary
- Electrical connections
- Door knobs, catches and latches
- Locks and padlocks
- Radio dials
- Windows and locks
- Window shades and venetian blinds
- Faucets: vertical and horizontal
- Stoppers and plungers

GADGET BOARD



Reverse of
gadget board.

Clinic School for Cerebral Palsied Children, Philadelphia Society for Crippled Children and Adults, Philadelphia, Pa.



Sigma Gamma Hospital School, Detroit Orthopaedic Clinic, Mt. Clemens, Mich.

(Left) Cradle phone mounted on board provides practice in use of dial phone.

A regular cradle-type dial phone may be taken apart and the necessary parts mounted on a regulation size board to provide an accurate practice situation for the use of wall dial phones. For learning purposes, the board may be secured to a table in any desirable position.

HEARING TUBE



To aid child in understanding and developing speech and language.

Vanderbilt Clinic, Columbia-Presbyterian Hospital, New York, N. Y.

HEARING TUBE

Speech

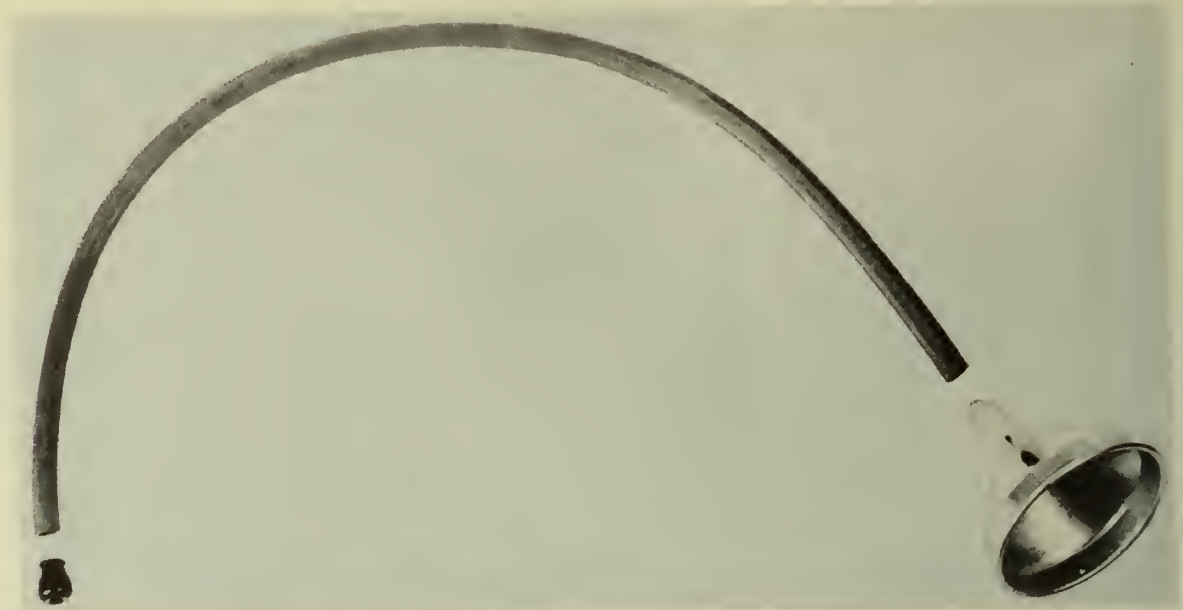
The usual amount of sensory stimulation from light, sound and touch may not be sufficient to make sharp sensory impressions on the cerebral palsied child. The hearing tube is used to increase the energy of sound brought to the child's ear, and to make particular auditory impressions, which are critical at a moment in speech therapy, stand out clearly from other environmental sounds. This latter factor should sharpen the

focus on the most important sounds, emphasizing them above the ever-present sound background.

The earpiece is inserted into the ear of the child and the therapist's mouth is held close to the funnel. The child usually is shown pictures or objects and then he is able to observe the therapist's face as he says the appropriate names. People who have used this device stress the importance of proceeding slowly, allowing several seconds to elapse between different stimuli.

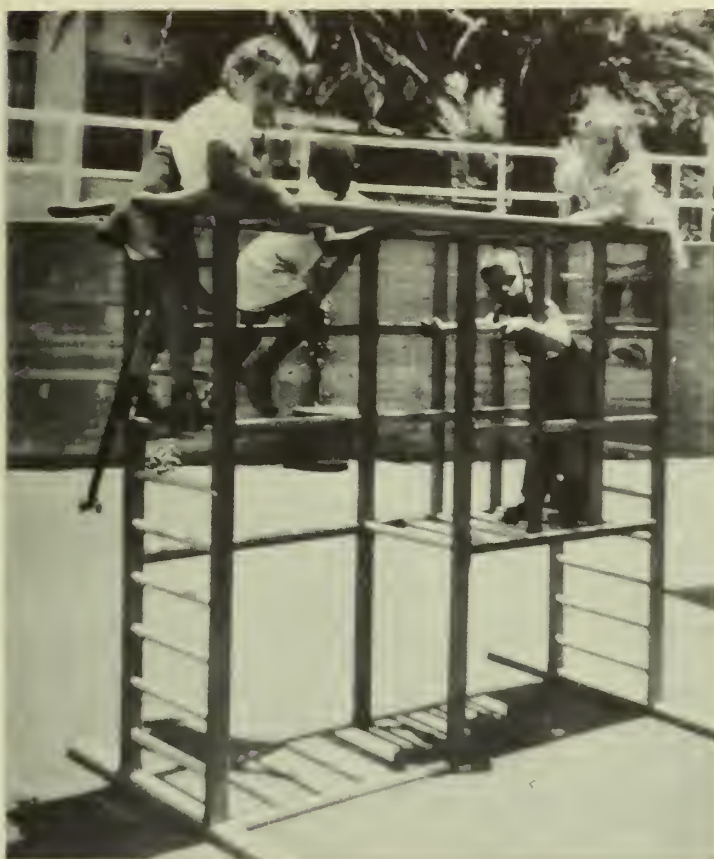
No. 60

HEARING TUBE



Vanderbilt Clinic, Columbia-Presbyterian Hospital, New York, N. Y.

JUNGLE GYM, PORTABLE



Helps to satisfy the climbing urge and strengthens muscles.

Sunshine School for Physically Handicapped Children, San Diego, Calif.

PORTABLE JUNGLE GYM

Special Education—Physical Therapy

The desire and urge to climb is present in most children. Some cerebral palsied children may learn to go up, over, in and out of the gym with little difficulty. Some may bring themselves only to a standing position beside it. Others may need plenty of time and help. Large muscles of the legs, back, abdomen and arms may be strengthened through climbing. Judgment in spatial relations may be improved through learning hand and foot placements on the rungs. Weak arms may gain the strength needed to manage crutches.

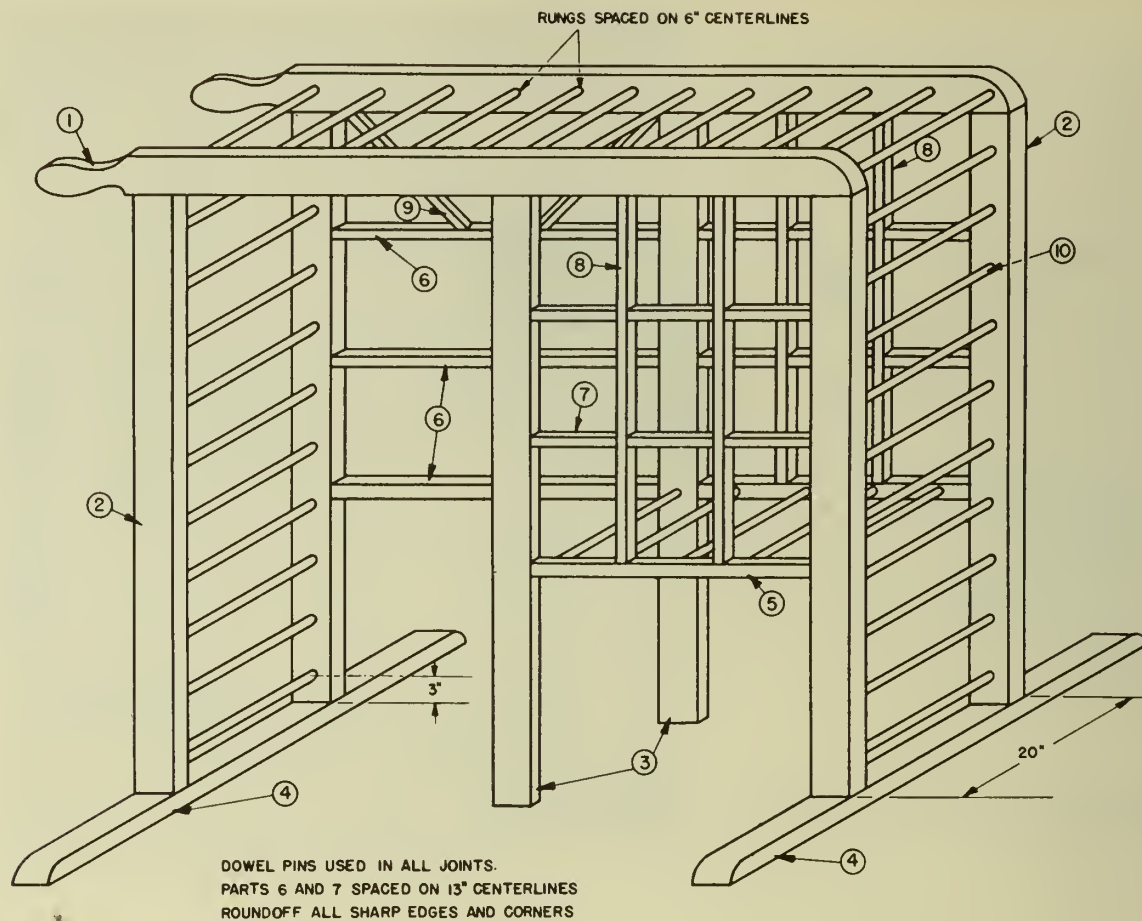
Having the rungs placed six inches apart

allows climbing for children who are unable to use an ordinary jungle gym. It also makes it easier to hang and to swing from rung to rung in the center portion of the gym. The open side for the center portion permits the teacher to enter the gym and assist the climbers.

This jungle gym is transported easily from outdoors to indoors and from room to room. It may be used in the classroom not only as a climbing device, but as equipment for dramatic play. Use of the jungle gym should be supervised.

No. 61

JUNGLE GYM, PORTABLE



BILL OF MATERIALS

Part No.	Name of Part	No. Required	Materials	Remarks
1	Top Rails	2	Wood	2" x 4" x 84"
2	Vertical Supports	4	Wood	2" x 4" x 63"
3	Center Vertical Supports	2	Wood	2" x 4" x 65"
4	Bases	2	Wood	2" x 4" x 50"
5	Horizontal Bars	2	Wood	2" x 2" x 29"
6	Horizontal Bars	3	Wood	2" x 2" x 36"
7	Steps	110"	Wood	2" x 2" x 9"
8	Vertical Bars	4	Wood	2" x 2" x 38"
9	Diagonal Braces	2	Wood	2" x 2" x 17"
10	Rungs	37	Dowel Rod	1" Dia. x 18"

Sunshine School for Physically Handicapped Children, San Diego, Calif.

LACERS, LONG TIPPED



Children may need to learn to handle bead lacers before learning to lace their shoes.

Michael Reese Hospital Therapeutic Day Nursery, Chicago, Ill.

LONG TIPPED LACERS

Occupational Therapy—Special Education

For many cerebral palsied children, stringing large beads on long tipped lacers is an excellent way to develop dexterity. With this activity the child may be taught to grasp small objects (thumb and finger opposition) and to coordinate the use of both hands.

When he can handle bead lacers satisfactorily, the child is ready to start learning to lace his shoes and braces.

Material: long lacers with stiffened ends

large wood or plastic beads with one-fourth inch holes

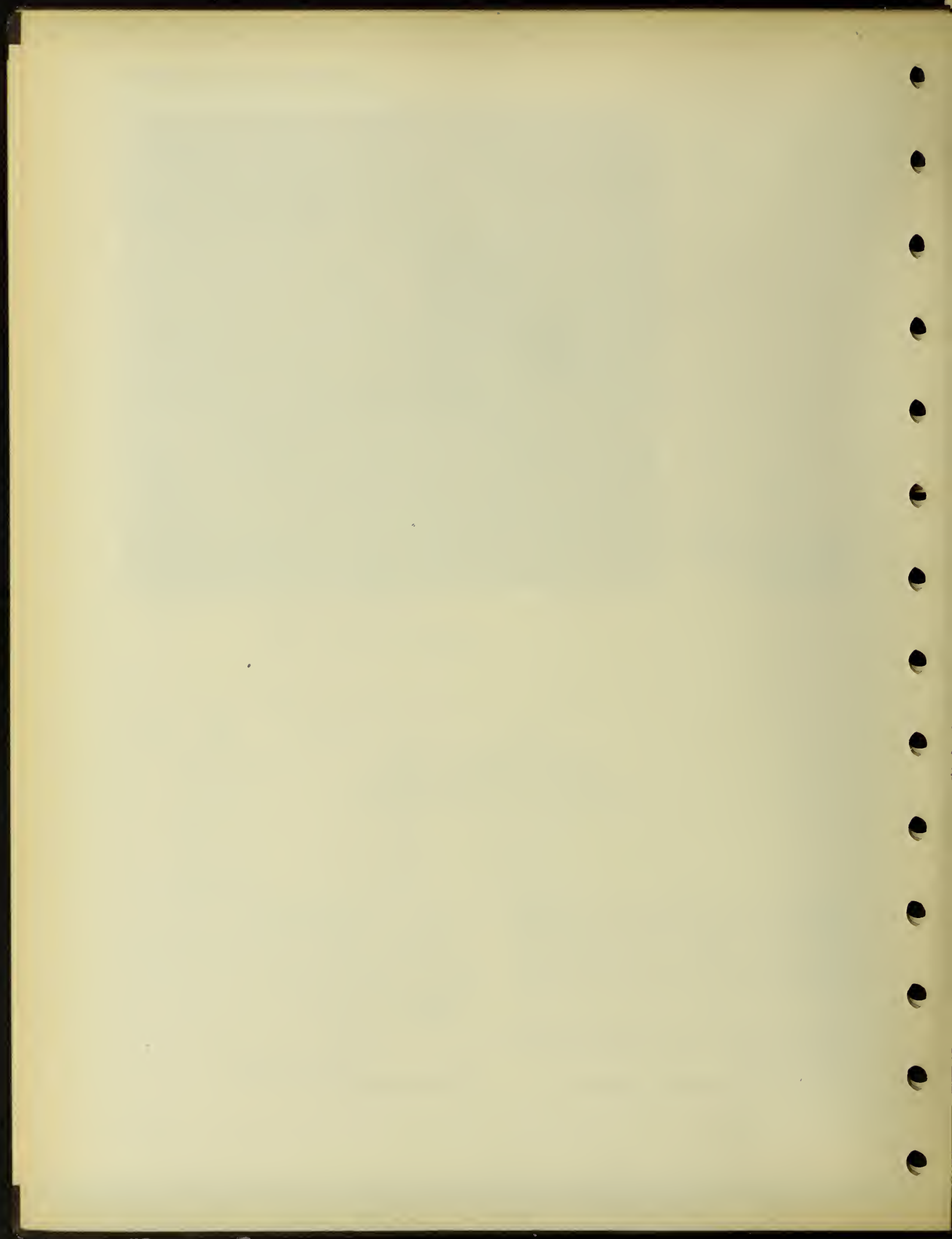
Directions: Stiffen end of cord with mending cement or nail polish or by applying a thin metal tip two or three inches long; or use commercial lacers* with two-inch tips.

Caution: Be sure there are no rough metal edges.

Do not allow the child to put the lacers in his mouth.

*See *Commercial Listing*.

No. 62



LADDER, FOOT PLACEMENT



Training for dorsi flexion.

Meeting Street School, Crippled Children and Adults of Rhode Island, Inc., Providence, R. I.

FOOT PLACEMENT LADDER

Physical Therapy

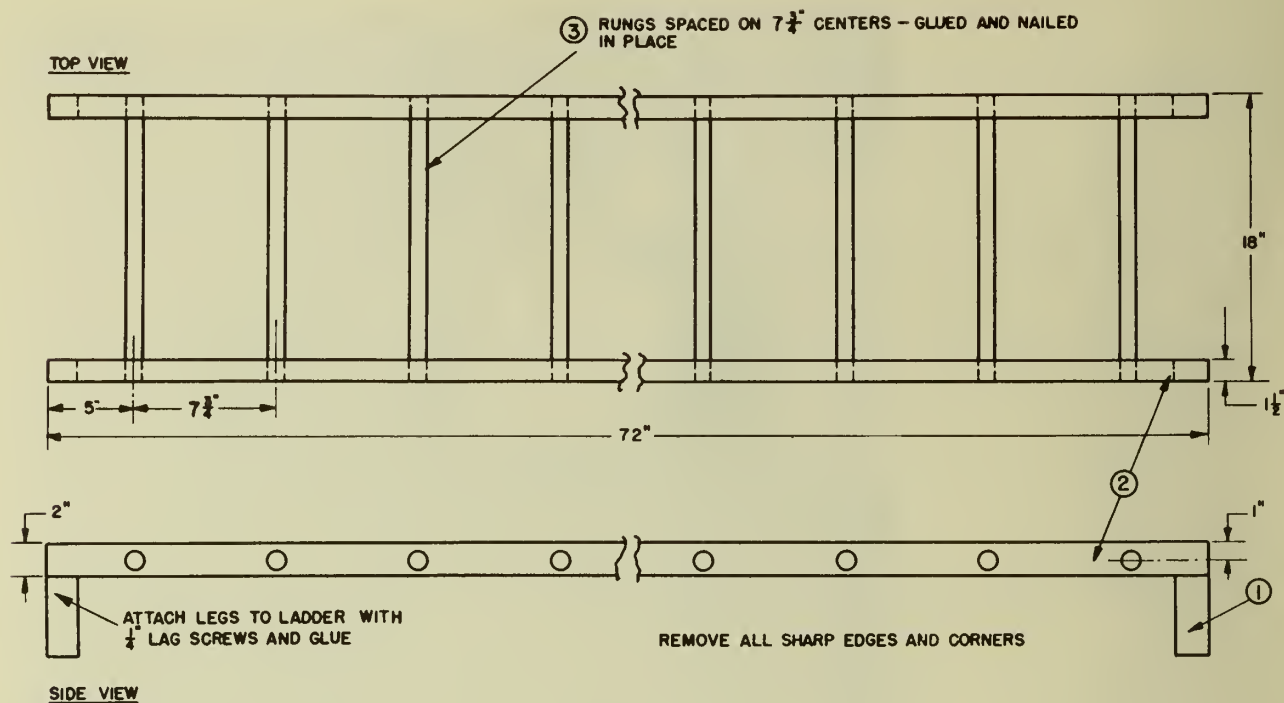
This ladder is presented for its simple design and easy construction. It is aimed toward correction of equinus gait and teaching of reciprocal steps. Balance training also can be done effectively. This ladder is not adjustable. It may be

used with parallel bars if the child cannot walk unsupported.

Suggested measurements on drawing are sufficient for an average child under six years. Increase the distance for older children with longer strides.

No. 63

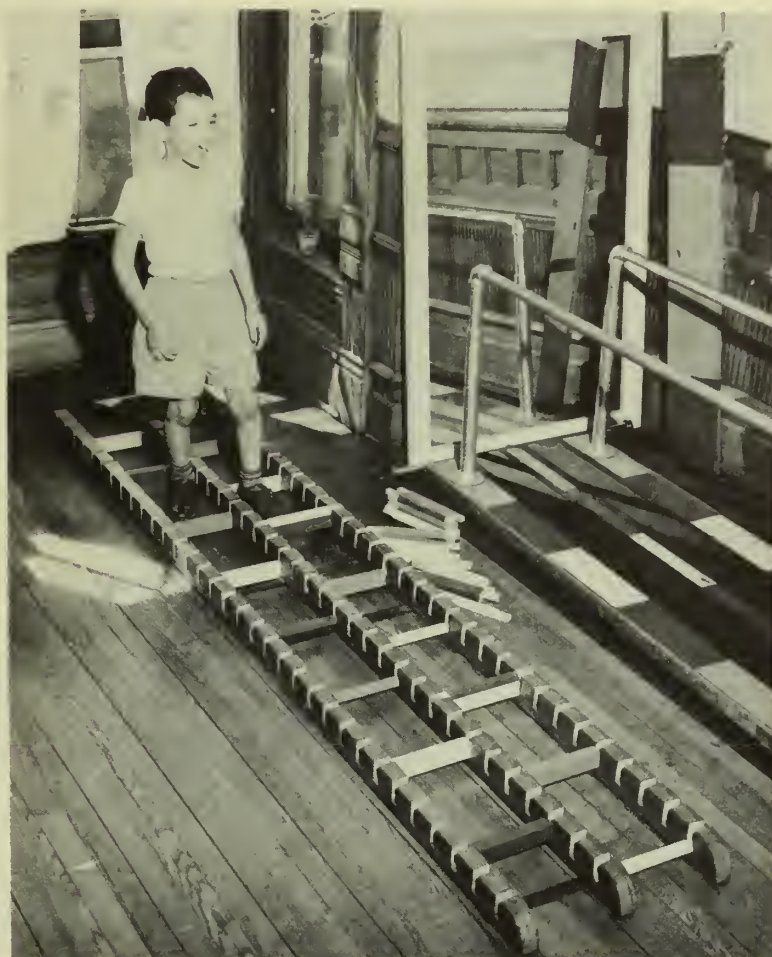
LADDER, FOOT PLACEMENT



BILL OF MATERIALS				
Part No.	Name of Part	No. Required	Material	Remarks
1	Legs	4	Wood	$1\frac{1}{2}$ " x 2" x 5"
2	Ladder Sides	2	Wood	$1\frac{1}{2}$ " x 2" x 72"
3	Rungs	9	Wood	1" Dia. — 18" Long

Meeting Street School, Crippled Children and Adults of Rhode Island, Inc., Providence, R. I.

LADDER, FOOT PLACEMENT, WITH ADJUSTABLE CROSSBARS



Perfecting the heel-toe gait.

Cerebral Palsy Center, Iowa Society for Crippled Children and Adults, Inc., Des Moines, Iowa

FOOT PLACEMENT LADDER WITH ADJUSTABLE CROSSBARS

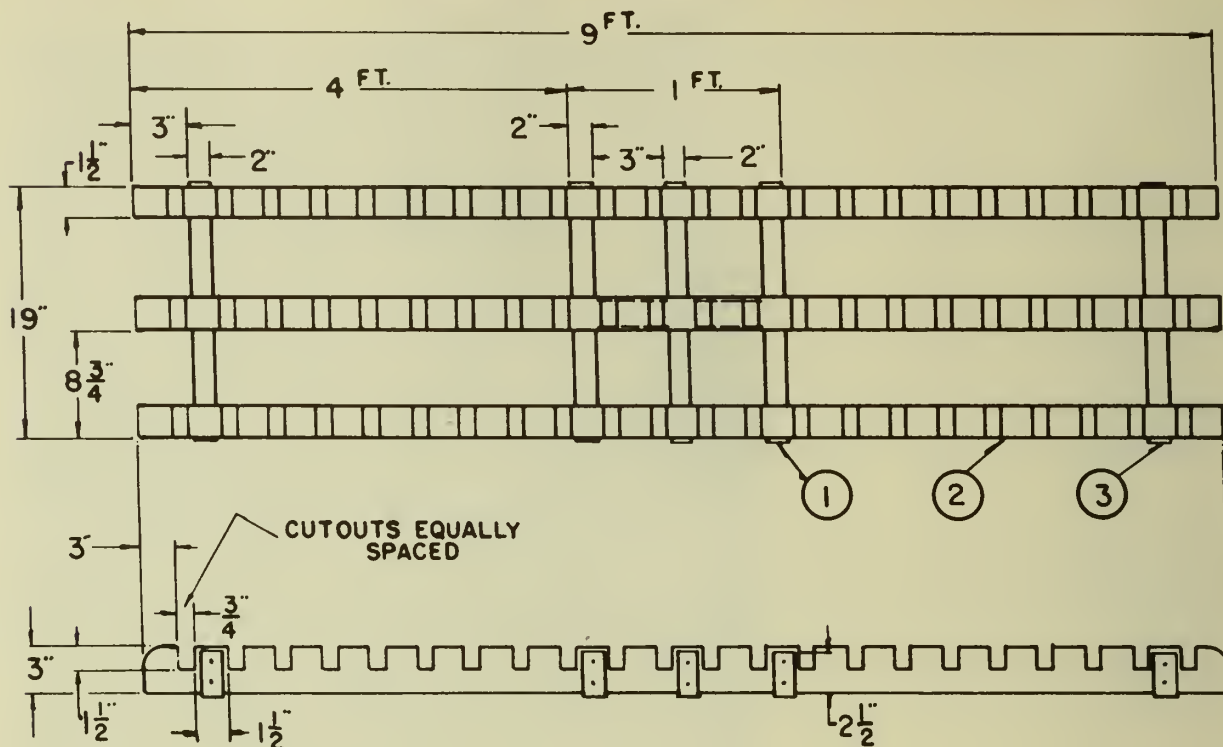
Physical Therapy

This adjustable foot placement ladder may be used with or without parallel bars depending upon the patient's skills. It may be adjusted according to length of steps desired by moving crossbars. Learning the correct pattern of foot

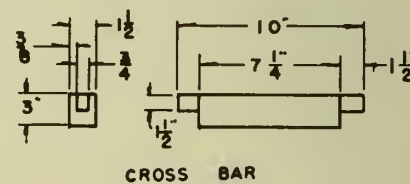
placement, dorsi flexion and reciprocation are easier for the cerebral palsied when he has interesting equipment designed to meet his special needs.

No. 64

LADDER, FOOT PLACEMENT, WITH ADJUSTABLE CROSSBARS



BILL OF MATERIALS				
Part No.	Name of Part	No. Required	Material	Remarks
1	Support Bar	1	Steel	1/8" Thick
2	Rail	2	Hardwood	1 1/2" x 3" x 108"
3	Bar	2	Steel	1/8" x 2" x 24"
	Cross Bar	12	Hardwood	1 1/2" x 3" x 10"



Caddo Foundation for Exceptional Children, Shreveport, La.

LADDER, FOOT PLACEMENT, WITH FOOTPRINTS



An open footprint helps to hold foot placement.

Indiana University Medical Center, Indianapolis, Ind.

FOOT PLACEMENT LADDER WITH FOOTPRINTS

Physical Therapy

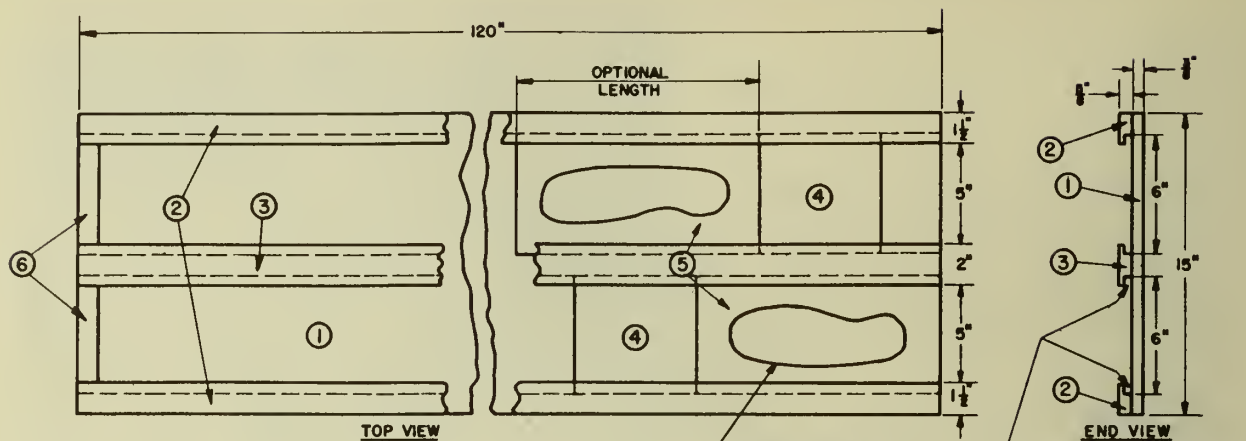
The slightly depressed footprint on this ladder helps the patient to hold one foot in place while concentrating on placement of the opposite foot. The patient also learns proper length of steps. Rotation of the legs at hips can be controlled somewhat by the sunken footprint.

The wooden frame is slotted the entire length

of both sides. Separate footprints and space blocks slide in from the end. Footprint boards may be made of different sizes to serve varying age groups. Space blocks may be narrow or wide for short or long strides. The baseboard is painted a bright color, or several colors, to attract those needing motivation.

No. 65

LADDER, FOOT PLACEMENT, WITH FOOTPRINTS



REMOVE ALL SHARP EDGES
AND CORNERS
USE #8 F.H. WOOD SCREWS
AND GLUE TO ASSEMBLE PARTS
PARTS 4, 5, AND 6 NOT SHOWN
IN END VIEW
PARTS 1, 2, AND 3 MAY BE MADE
IN SEVERAL SECTIONS

TRACE FOOT PATTERN
ON PART 5 AND CUT OUT
FOOT PRINT

$\frac{1}{8} \times \frac{1}{8}$ GROOVE CUT IN FRAMES
FOR SLIDING FIT OF PARTS 4
AND 5

BILL OF MATERIALS

Part No.	Name of Part	No. Required	Material	Remarks
1	Baseboard	1	Plywood	$\frac{3}{8}$ " x 15" x 120" or 2 pcs. $\frac{3}{8}$ " x 15" x 60"
2	Side Frames	2	Wood	$\frac{5}{8}$ " x $1\frac{1}{2}$ " x 120"
3	Center Frame	1	Wood	$\frac{5}{8}$ " x 2" x 120"
4	Spacers	As req'd	Masonite	$\frac{3}{8}$ " x 6" x 6"
5	Footprints	As req'd	Masonite	$\frac{3}{8}$ " Thick, 6" Wide
6	End Blocks	2	Wood	$\frac{5}{8}$ " x 1" x 5"

Cerebral Palsy Round Robin Digest

LAPBOARD, TABLE TOP



School District of the City of Wyandotte, Mich.



Serves as a work table.

TABLE TOP LAPBOARD

Special Education—Occupational Therapy

A relaxation chair designed for the individual child may make some hand coordination activities at a regular desk or table awkward and difficult. To maintain good sitting posture and balance, a child may require a table top which will give his arms complete support. A removable work board

may help to solve this problem.

The dimensions and special devices of this work board have a number of advantages. The semi-circle cut-out on the side of the board nearest the child allows it to be drawn farther in around him, bringing his work space closer. The lock-

No. 66

LAPBOARD, TABLE TOP

ing device which attaches the board to the arms of the chair makes it stable and gives the child physical security. The board is large enough to permit a wide range of arm movement. The cork insert on the masonite board makes it possible to fasten drawing or writing paper to the table board with thumb tacks. (However, if cork is not inserted, scotch tape may be used across the corners of the paper to hold it in place.)

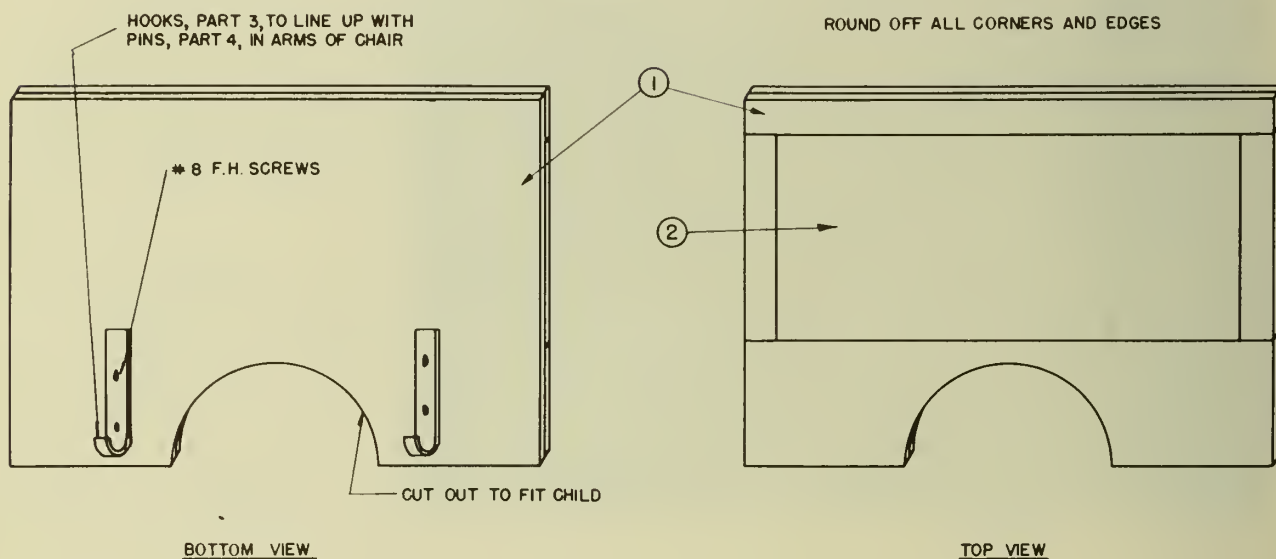
A molding around the outside of the table top may be desirable to prevent materials from falling to the floor.

Measurements and Directions: In constructing this board, the overall measurements should allow for full extension of the child's arms, both for-

ward and to the side, so that the child will have plenty of work space.

In making the table top (wood or masonite or its equivalent) glue a sheet of cork to the board, leaving a three- to five-inch margin around the edge. Add another thickness of wood or masonite around the margin edge of the cork so the work surface is level.

The locking device for the table top and chair is made by inserting a metal pin in the frame of each of the chair arms. Two metal strips with a curved bend at one end are attached by screws to the underside of the table top (in corresponding position with the metal pins in the chair arms). The ends of the curved metal strips catch under the metal pins and thus hold the board in locked position.



BILL OF MATERIALS				
Part No.	Name of Part	No. Required	Material	Remarks
1	Top	1	Wood	(Made of 5 pieces)
2	Top Insert	1	Cork	
3	Hooks	2	Flat Wire Steel	
4	Pins	2	Steel	To fit in Arms of Chair

School District of the City of Wyandotte, Mich.

LIP AND TONGUE ACTIVITY: BOTTLE STRAW



Transition from nursing to straw drinking is learned through the use of a bottle.

Northwestern University Speech and Hearing Clinic, Evanston, Ill.

LIP AND TONGUE ACTIVITY: BOTTLE STRAW

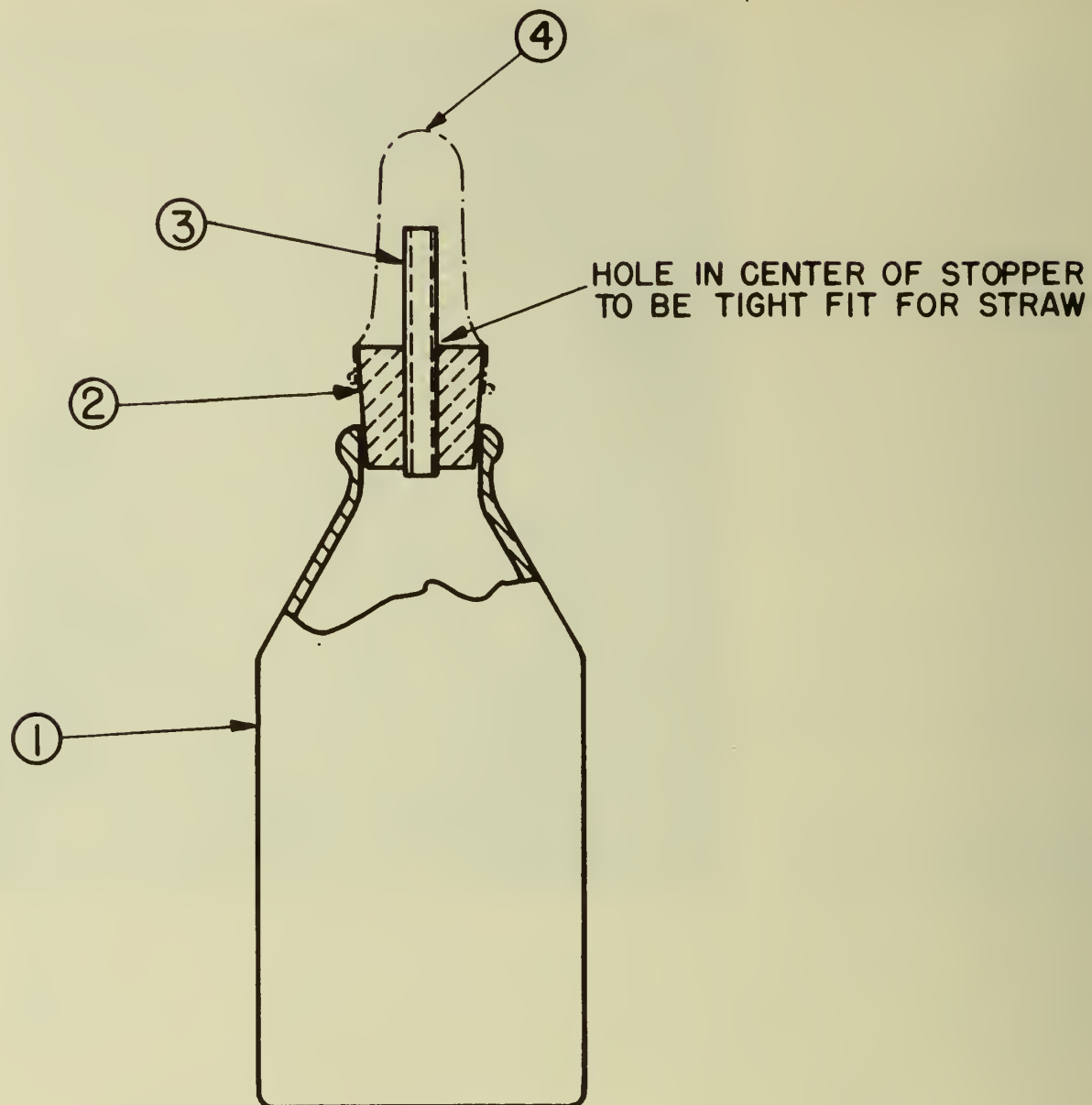
Speech—Occupational Therapy

The bottle straw is another "transition" device to facilitate an early transfer from bottle nursing to straw drinking. The use of the straw with the bottle aids in associating the necessary sucking

activity with the straw and this transfer of conditioning is again used in the next step to ordinary straw drinking.

No. 67

LIP AND TONGUE ACTIVITY: BOTTLE STRAW



BILL OF MATERIALS				
Part No.	Name of Part	No. Required	Material	Remarks
1	Small Nursing Bottle	1	Glass	
2	Stopper	1	Rubber	Dia. to fit neck of bottle
3	Straw	1	Plastic	2" long
4	Nipple	1	Rubber	

Northwestern University Speech and Hearing Clinic, Evanston, Ill.

LIP AND TONGUE ACTIVITY: CLOWN PICTURES



Exercise for the tongue and face.

Northwestern University Speech and Hearing Clinic, Evanston, Ill.

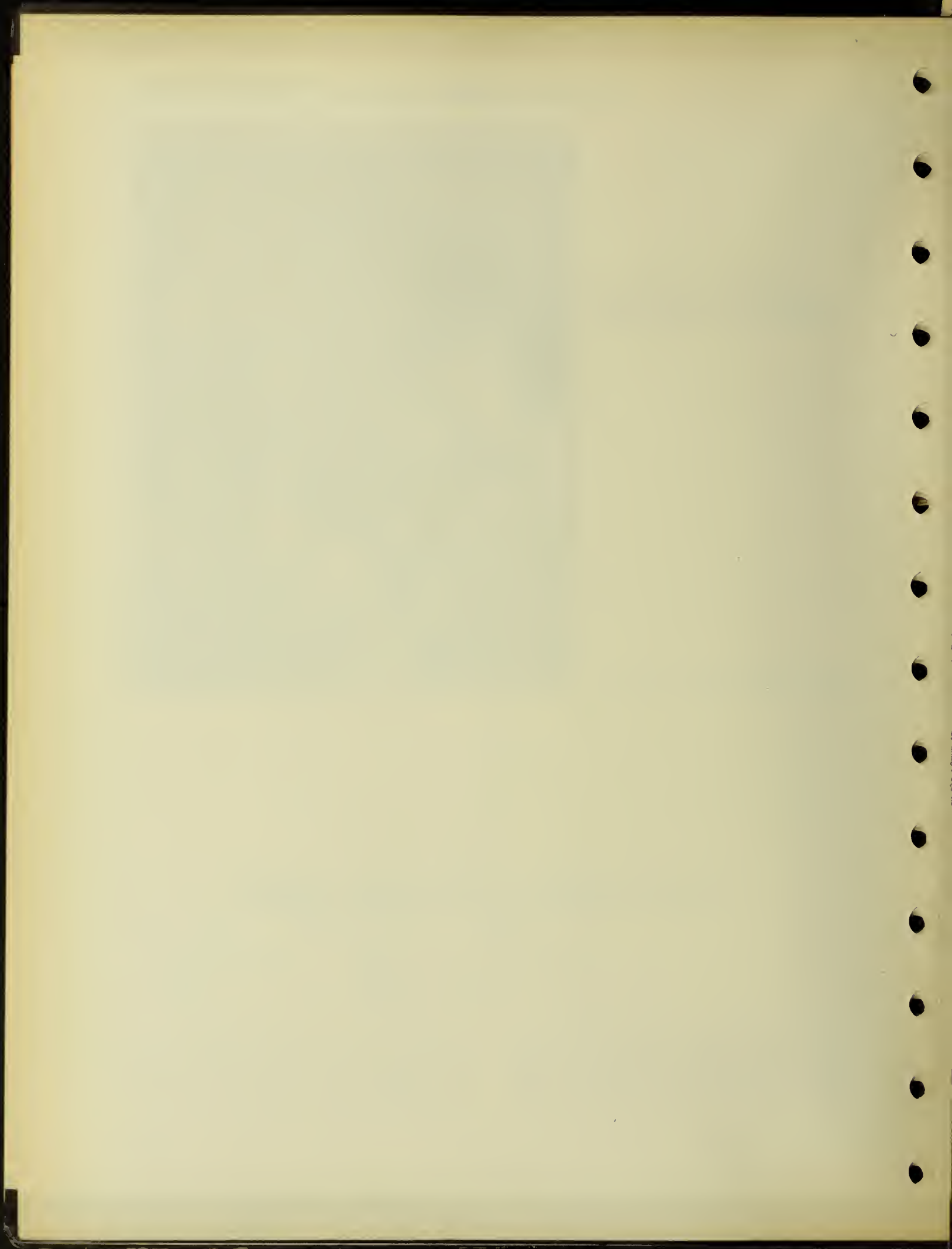
LIP AND TONGUE ACTIVITY: CLOWN PICTURES

Speech

The assorted pictures representing facial and tongue postures provide stimulation for useful exercises. Motivation may be increased by providing lipstick and a hat and collar just like the

clown's. In cases where these pictures promise to be helpful, particular pictures are furnished to provide the specific exercise the child needs.

No. 68



LIP AND TONGUE ACTIVITY: NURSING STRAW



Learning straw drinking from a glass through the aid of a nursing straw.

Northwestern University Speech and Hearing Clinic, Evanston, Ill.

LIP AND TONGUE ACTIVITY: NURSING STRAW

Speech—Occupational Therapy

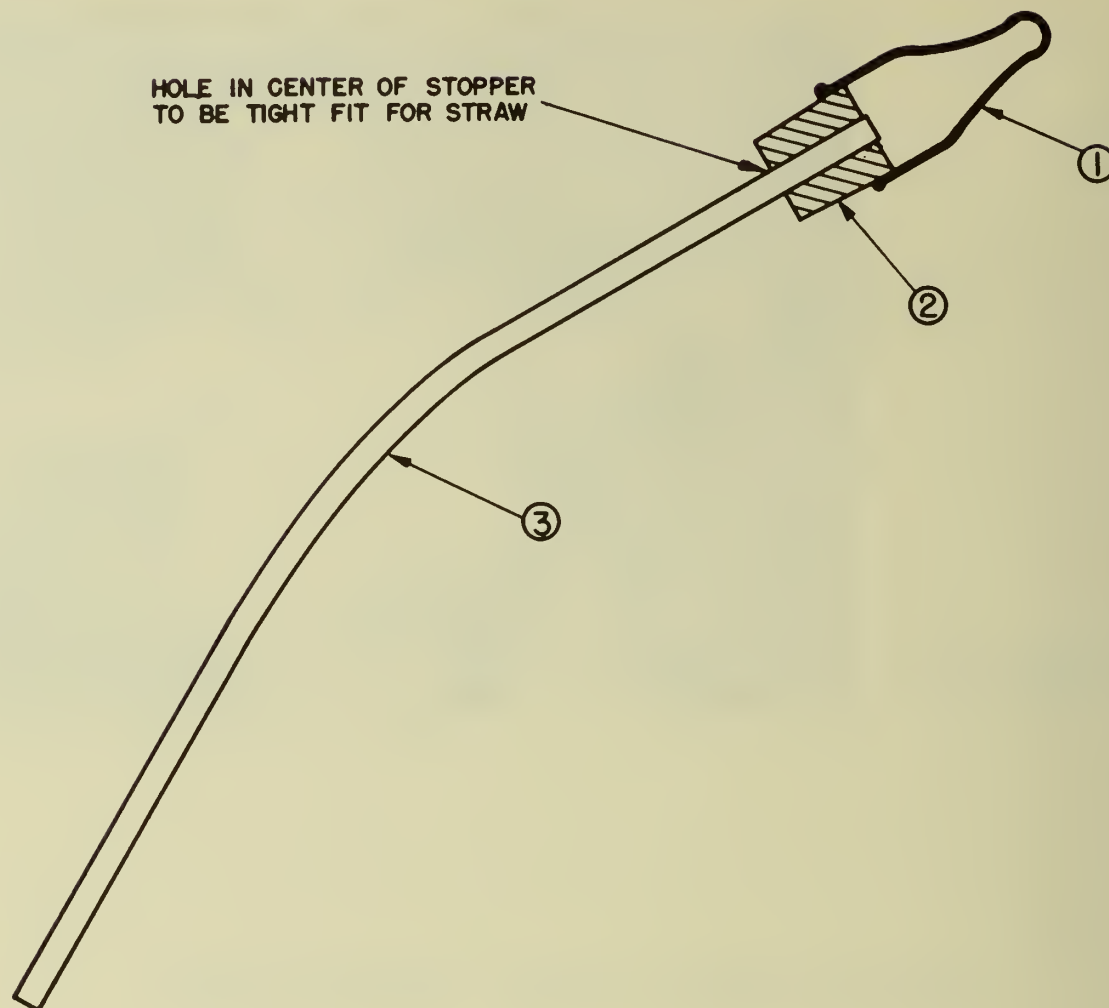
Teaching a young child to suck through a straw has long been recognized as an important phase in the muscle training for many cerebral palsied children. However, it often has been difficult to start.

The nursing straw has been a useful device with children who have nursed from a bottle. The children are conditioned to sucking the nipple, so instead of simply letting an ordinary straw rest between their lips with nothing happening, the youngsters ordinarily "go right to work" on the modified straw. The nipple may

be cut away gradually until only the stopper remains on the straw. Finally, the stopper may be removed.

Since holding a small straw between the lips may be difficult at first for many children, the stopper on the straw makes lip valving easier. Often it is necessary to work down gradually to the straw by using a succession of stoppers on the straw, each straw being smaller in diameter, thus gradually reducing the sizes until the lip activity is efficient enough to use the ordinary straw.

LIP AND TONGUE ACTIVITY: NURSING STRAW



BILL OF MATERIALS				
Part No.	Name of Part	No. Required	Material	Remarks
1	Nipple	1	Rubber	
2	Stopper	1	Rubber	Dia. to fit Nipple
3	Straw	1	Plastic	Approx. 12" long

Northwestern University Speech and Hearing Clinic, Evanston, Ill.

MIRRORS, VISUAL CONTROL



Many types of mirrors have use in speech therapy.

Minneapolis Public Schools, Minneapolis, Minn.

VISUAL CONTROL: MIRRORS

Speech

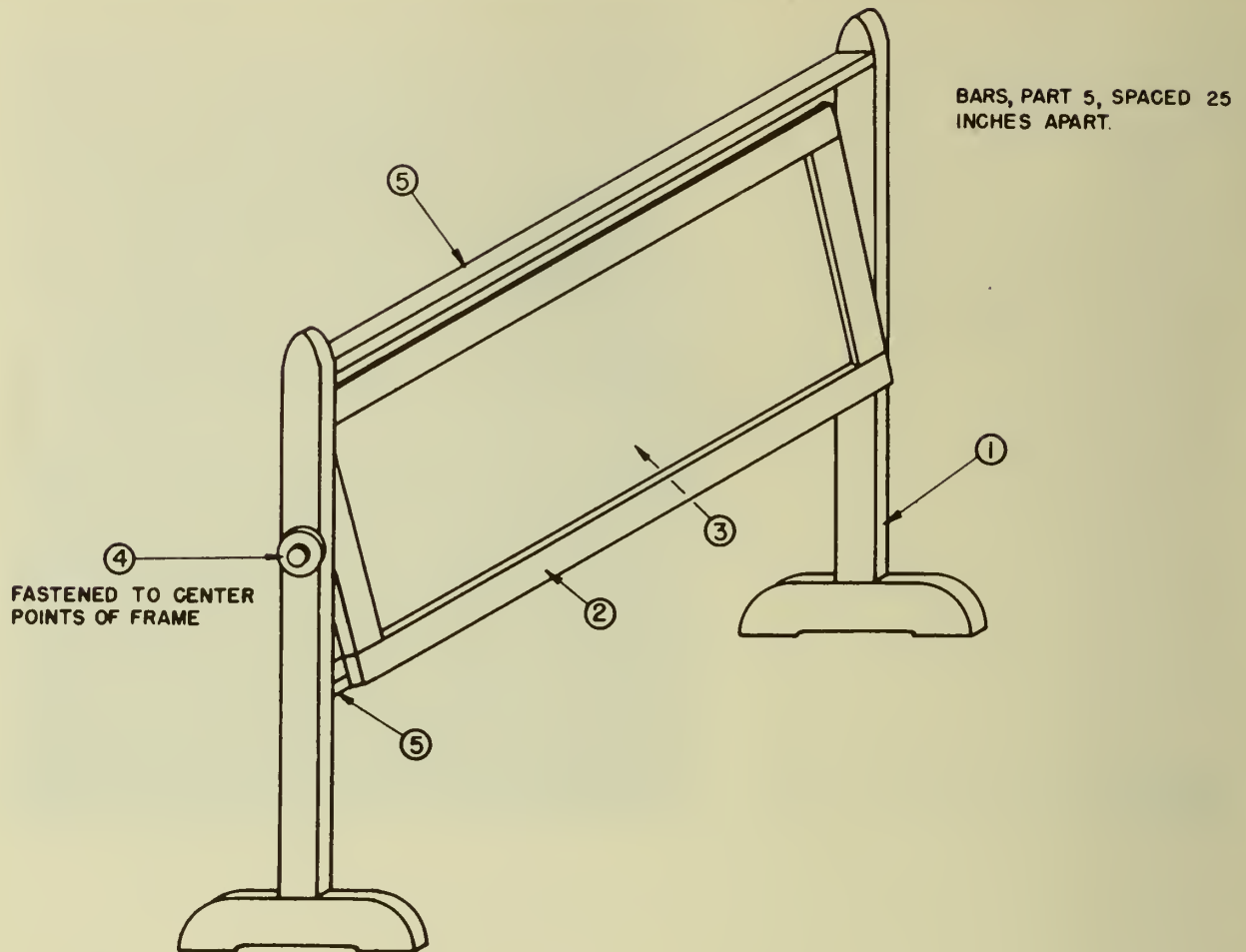
Being able to see what is happening is a great aid to the cerebral palsied patient when he is learning a new movement or trying to reduce or change movements. Illustrated is an adjustable mirror (on a standard) which can be used with single cases or small groups.

Large mirrors in which the subject can see himself completely are helpful with more severe involvement when attempts are being made to

control extraneous movements during speech. The larger mirrors may be entirely too distracting to children who have perceptual problems. They often do better with concave shaving mirrors in which only one part of the face can be seen at one time. Paper forms can be pasted on small hand mirrors to block any part other than what the therapist is stressing in an exercise, as the lips or the tongue.

No. 70

MIRRORS, VISUAL CONTROL



BILL OF MATERIALS

Part No.	Name of Part	No. Required	Material	Remarks
1	Stand	1	Wooden Standard	46" High
2	Frame	1	Wood	45" x 23" x 2½"
3	Mirror	1	Glass	To fit Frame
4	Knobs	2	Steel	Standard Screw Adjustment
5	Spacer Bars	2	Wood	45½" Long

Minneapolis Public Schools, Minneapolis, Minn.

NASALITY CONTROL: BUBBLE JARS



For developing control of the soft palate.

Northwestern University Speech and Hearing Clinic, Evanston, Ill.

NASALITY CONTROL: BUBBLE JARS

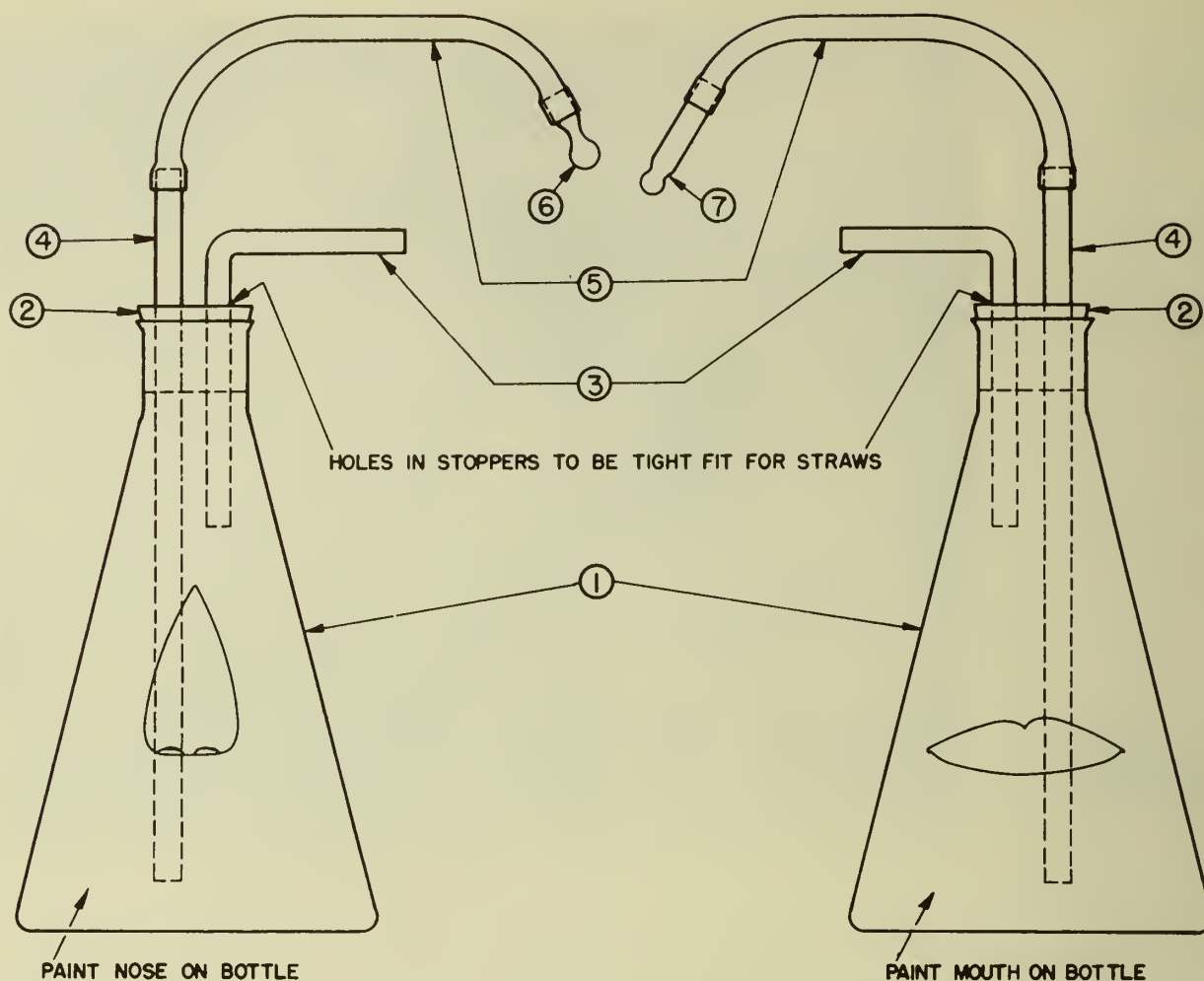
Speech

Excessive nasality is sometimes a problem in the speech of a cerebral palsied child and exercises for the use of the palate may be needed. The two bubble jars, one to be connected with the nose and one with the mouth, are labeled by pictures so that the patient has a quick, visible check

on whether the air is coming through his nose or mouth. The nasal jar may be used separately as an indicator of unwanted nasal escapage or the jars may be used simultaneously for selective, alternate nasal and oral exhalation exercises.

No. 71

NASALITY CONTROL: BUBBLE JARS

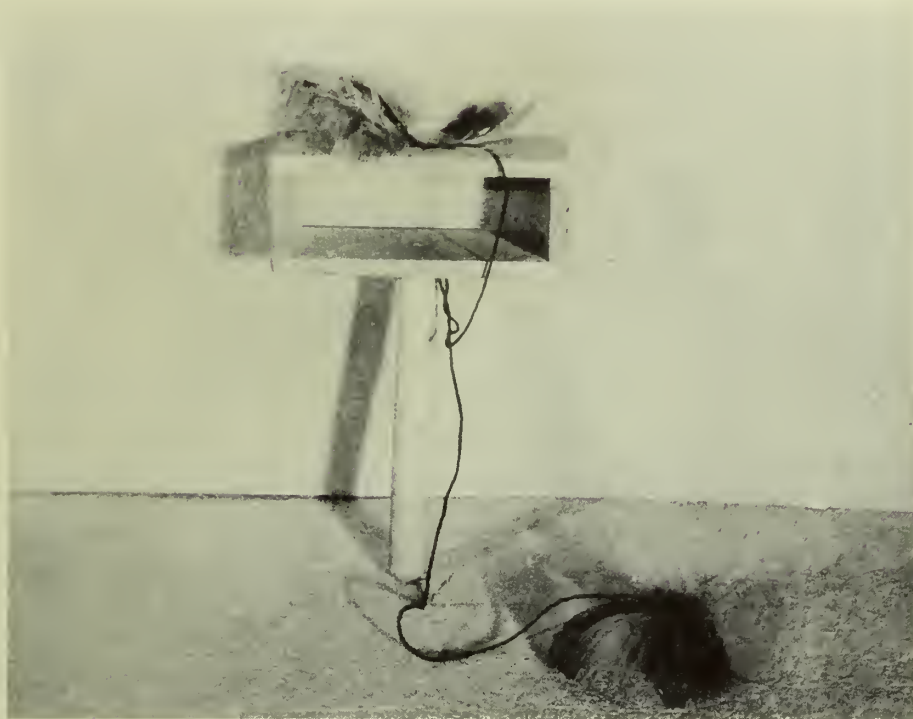


BILL OF MATERIALS

Part No.	Name of Part	No. Required	Material	Remarks
1	Flask	2	Glass	
2	Stoppers	2	Rubber	Dia. to fit neck of bottle
3	Air Escape Tubes	2	Plastic	5" Long
4	Straws	2	Plastic	9" Long
5	Rubber Tubing	2	Rubber	24" Long Dia. to fit Straws
6	Mouth Piece	1	Wood	
7	Nasal Olive	1		

Northwestern University Speech and Hearing Clinic, Evanston, Ill.

NASALITY CONTROL: FEATHER BOX



Motivation for directing
breath through mouth.

University of Illinois Speech Clinic, Urbana, Ill.

NASALITY CONTROL: FEATHER BOX

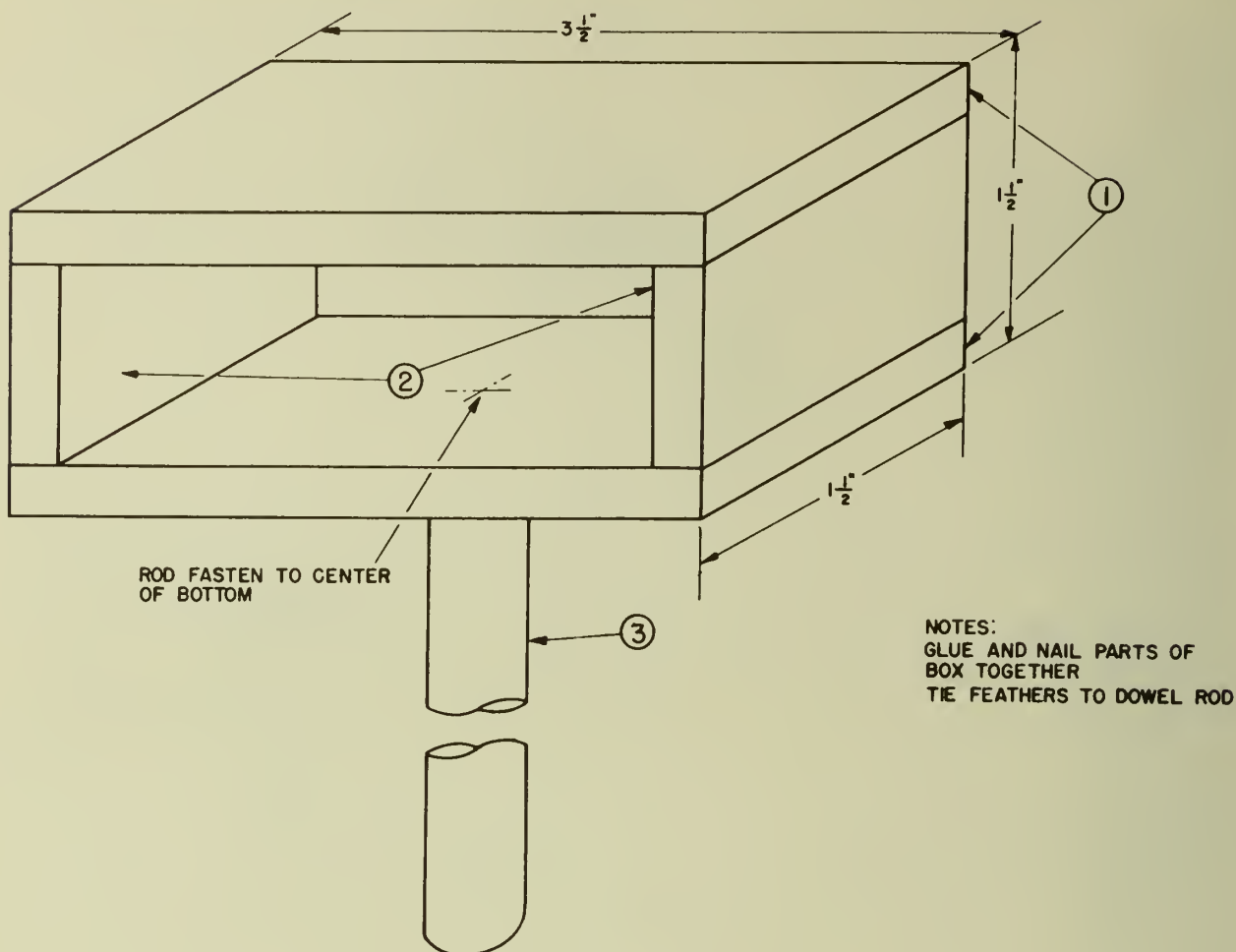
Speech

The feather box represents an interesting device for training a patient to emit an oral stream of air without nasal escape. The box is placed up to the child's mouth and a feather is mounted on each platform. The movement of the feathers

indicates the child's control of the oral breath stream. Using this device before a mirror reduces the fatigue from trying to watch the real feathers on the box. Many cerebral palsied children would not be able to focus on the feathers in that position.

No. 72

NASALITY CONTROL: FEATHER BOX



BILL OF MATERIALS

Part No.	Name of Part	No. Required	Material	Remarks
1	Top and Bottom	2	1/4" Plywood	1 1/2" x 3 1/2"
2	Sides	2	1/4" Plywood	1" x 1 1/2"
3	Peg Handle	1	1/2" Dowel	5" Long
4	Feathers	2		Small and Fluffy
5	String			20" Long

University of Illinois Speech Clinic, Urbana, Ill.

NUMBER BOARD



Number work made easier for child with poor speech or poor writing ability.

Cerebral Palsy Center, Iowa Society for Crippled Children and Adults Inc., Des Moines, Iowa

NUMBER BOARD

Special Education—Occupational Therapy

If a child lacks the ability to write because of poor hand coordination and/or has no speech, he may be helped to understand number work through the use of this board. As the board does not require very fine coordination of the hands, it may be possible for him to do number work independently. Building number concepts may be aided by such activity as counting, matching numbers and doing number combination work.

A child with a visual problem may profit

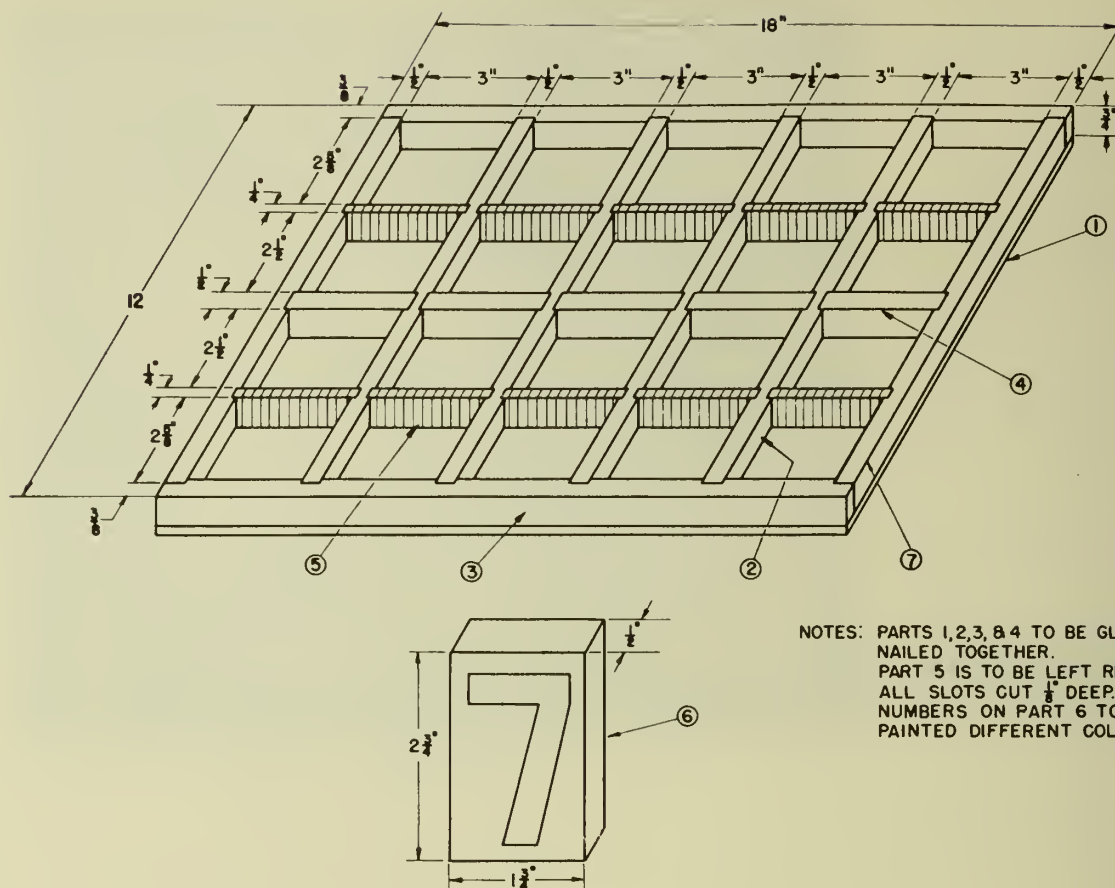
through modification of this equipment. Utilization of the kinesthetic sense is often helpful in remedial teaching. Cut-out numbers of wood or heavy sandpaper glued to the block may provide this kinesthetic stimulation.

Directions: The second and fourth horizontal spacers are slotted one-fourth inch pieces which can be removed to make ten large squares five and one-quarter inches by three inches instead of 20 small ones, as shown in diagram.

No. 73

CEREBRAL PALSY EQUIPMENT

NUMBER BOARD



NOTES: PARTS 1, 2, 3, & 4 TO BE GLUED AND NAILED TOGETHER.
PART 5 IS TO BE LEFT REMOVABLE.
ALL SLOTS CUT $\frac{1}{8}$ " DEEP.
NUMBERS ON PART 6 TO BE PAINTED DIFFERENT COLORS.

BILL OF MATERIALS

Part No.	Name of Part	No. Required	Material	Remarks
1	Base	1	$\frac{1}{4}$ " Plywood	12" x 18"
2	Vertical Spacers	4	$\frac{1}{2}$ " Pine	$\frac{3}{4}$ " x $11\frac{1}{4}$ "
3	Ends	2	$\frac{1}{2}$ " Pine	$\frac{3}{4}$ " x 18"
4	Horizontal Spacers	5	$\frac{1}{2}$ " Pine	$\frac{3}{4}$ " x $3\frac{1}{4}$ "
5	Removable Spacers	10	$\frac{1}{4}$ " Pine	$\frac{3}{4}$ " x $3\frac{3}{16}$ "
6	Number Blocks	18	$\frac{1}{2}$ " Pine	$1\frac{3}{4}$ " x $2\frac{3}{4}$ "
7	End Spacers	2	$\frac{1}{2}$ " Pine	$\frac{3}{4}$ " x $11\frac{1}{4}$ "

Cerebral Palsy Center, Iowa Society for Crippled Children and Adults, Inc., Des Moines, Iowa

OBJECT LOTTO



An aid in speech motivation and language development as well as eye and hand coordination.

Cerebral Palsy Treatment Center, Franklin County Society for Crippled Children, Columbus, Ohio

OBJECT LOTTO

Special Education—Occupational Therapy—Speech

This object lotto game consists of a series of nine familiar objects, printed on one large card, and a set of nine individual small cards with the same single pictures on each. The game is to match the single pictures with pictures on the large card. It is a game which may be enjoyed by all young children as it may be modified and played in various ways according to the child's ability or interest.

Object lotto may serve as a motivation for speech and language development for it offers a combination of visual and auditory stimulation. A non-talking child can nod his head "yes" or "no" as the single object is named and placed for him correctly or incorrectly on the picture card. A child who has some speech may learn to identify and name the single objects. He may

be encouraged through question and answer method to carry on a conversation regarding the various pictures. After a child identifies single cards he can then identify and match the same object on the larger card as it is placed by the adult. If a child has fairly good use of his hands he can learn to match and place the cards without assistance. This may be an aid to improvement in eye and hand coordination.

Directions and Measurements: Object lotto games may be purchased in stores or they may be made. In making them, one needs identical sets of simple object pictures. One set of pictures may be mounted singly on pieces of cardboard. The other matching pictures may be mounted in rows of three on a large single piece of cardboard.

No. 74

PERISTALTIC PATTERN: MODIFIED NURSING BOTTLE



Exercise in sucking and swallowing aids a child's speech and ability to eat.

Northwestern University Speech and Hearing Clinic, Evanston, Ill.

PERISTALTIC PATTERN: MODIFIED NURSING BOTTLE

Speech—Occupational Therapy

The peristaltic activity by which food is drawn (sucked) into the mouth is probably as basic a pattern for speech as reciprocation is for walking. The cerebral palsied child has little opportunity to develop or use this fundamental movement when food is "spooned or poured" into his throat while he is in a semi-reclining position. In this position the tongue does little more than to agitate food as it drops toward the gullet.

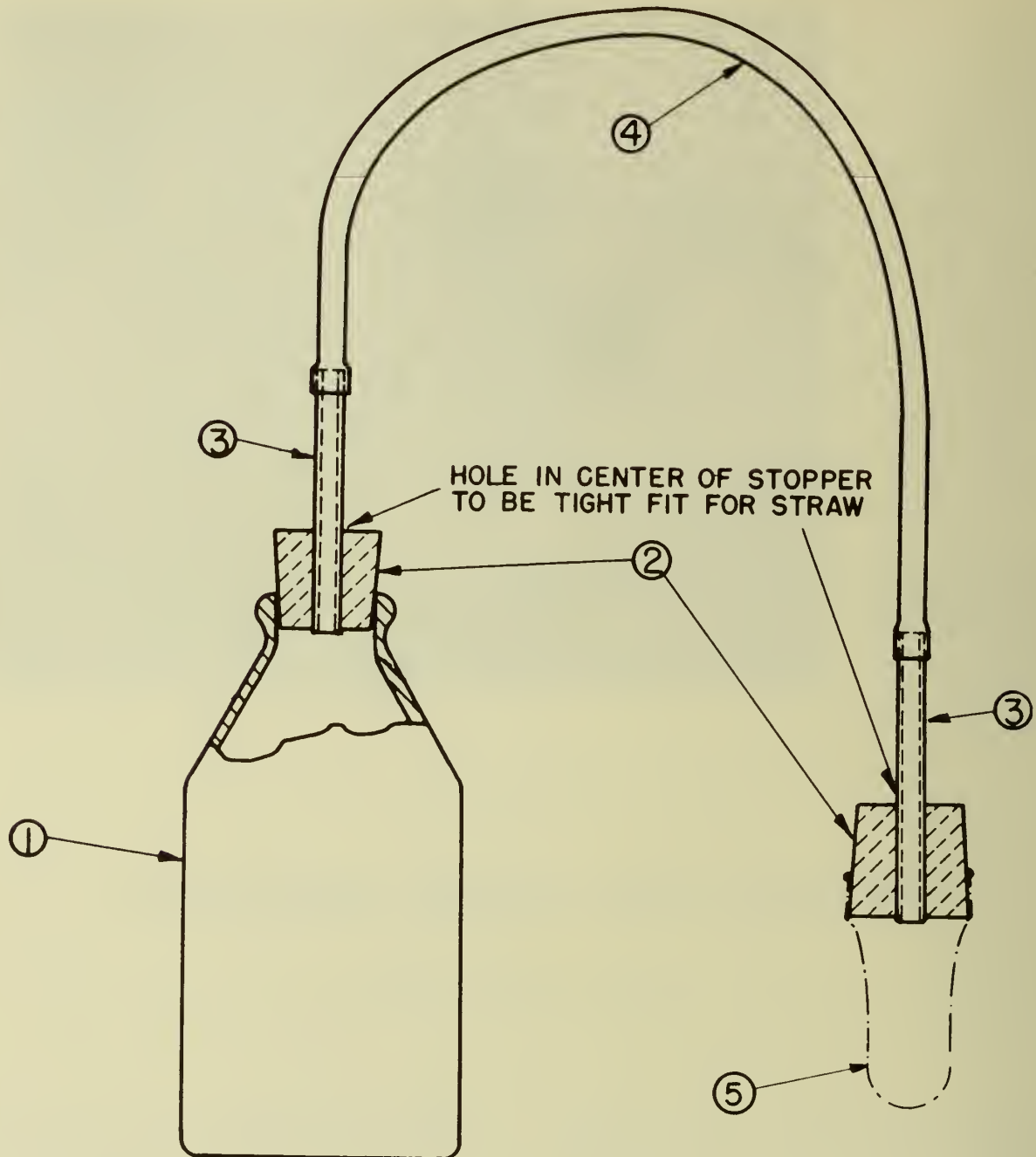
The illustrated modified nursing bottle places a premium on developing effective peristalsis, since it can be used while the child lies on his

stomach. In this position the lip valving must be effective and the tongue activity efficient if food is to be raised to the back of the mouth for swallowing.

The use of the modified nursing bottle enables the placement of the child in a struggle position from which the peristaltic activity may emerge. Obviously, the child's food intake must not be limited to the amount he gets in this way, but some feeding can be done daily to train effective peristaltic movement.

No. 75

PERISTALTIC PATTERN: MODIFIED NURSING BOTTLE



BILL OF MATERIALS				
Part No.	Name of Part	No. Required	Materials	Remarks
1	Nursing Bottle	1	Glass	
2	Stopper	2	Rubber	Dia. to fit neck of bottle
3	Straw	2	Plastic	2" Long
4	Tubing	1	Rubber	$\frac{1}{4}$ " Dia. — 2' Long
5	Nipple	1	Rubber	

Northwestern University Speech and Hearing Clinic, Evanston, Ill.

PICTURE BOX



Pictures may provide a motivation for speech and language development.

University of Illinois Speech Clinic, Urbana, Ill.

PICTURE BOX

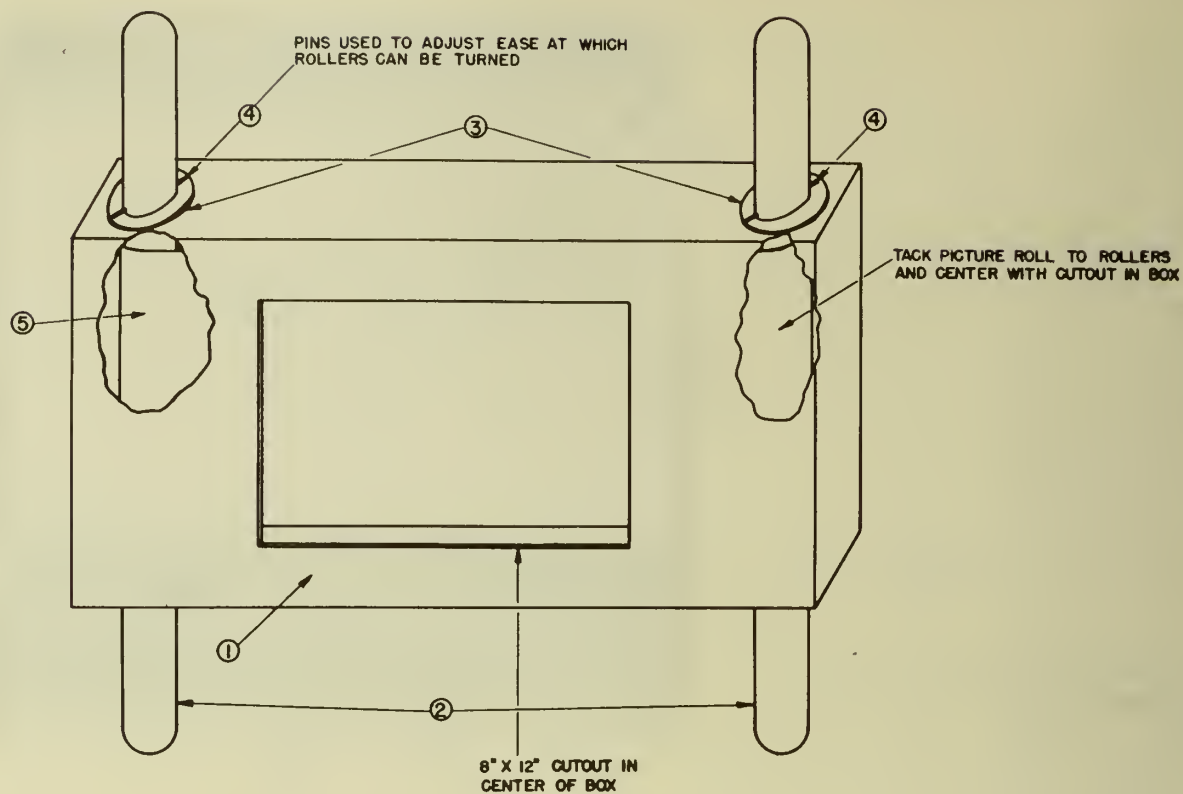
Speech—Special Education

Using the principle of the "peep show," the picture box provides a different way of presenting a series of stimuli. Pictures might be named and discussed by the child, or, with less advanced children, they might be named and discussed by

the therapist to increase the children's interest and knowledge. Sequences of pictures representing stories place a premium on sustained interest. Relating what will follow in familiar stories and anticipating what will follow in new stories offer variations in the use of this device.

No. 76

PICTURE BOX



BILL OF MATERIALS

Part No.	Name of Part	No. Required	Material	Remarks
1	Box	1	Cardboard or Wood	24" x 12" x 3"
2	Rollers	2	Wood	1½" Dia. — 24" Long
3	Washers	4	Steel	To fit Rollers 2" O. D.
4	Pins	4	Steel	⅛" Dia., 2" Long
5	Picture Roll	1	Paper	9" wide, indefinite Length

University of Illinois Speech Clinic, Urbana, Ill.

PULLEYS, WEIGHTED



(Left) Weighted pulleys for active-assisted hip flexor exercise.



(Right) Cuff adjustment can combine knee and hip flexion.

Variety Club, Cerebral Palsy Department, Children's Hospital, Buffalo, N. Y.

WEIGHTED PULLEYS

Physical Therapy

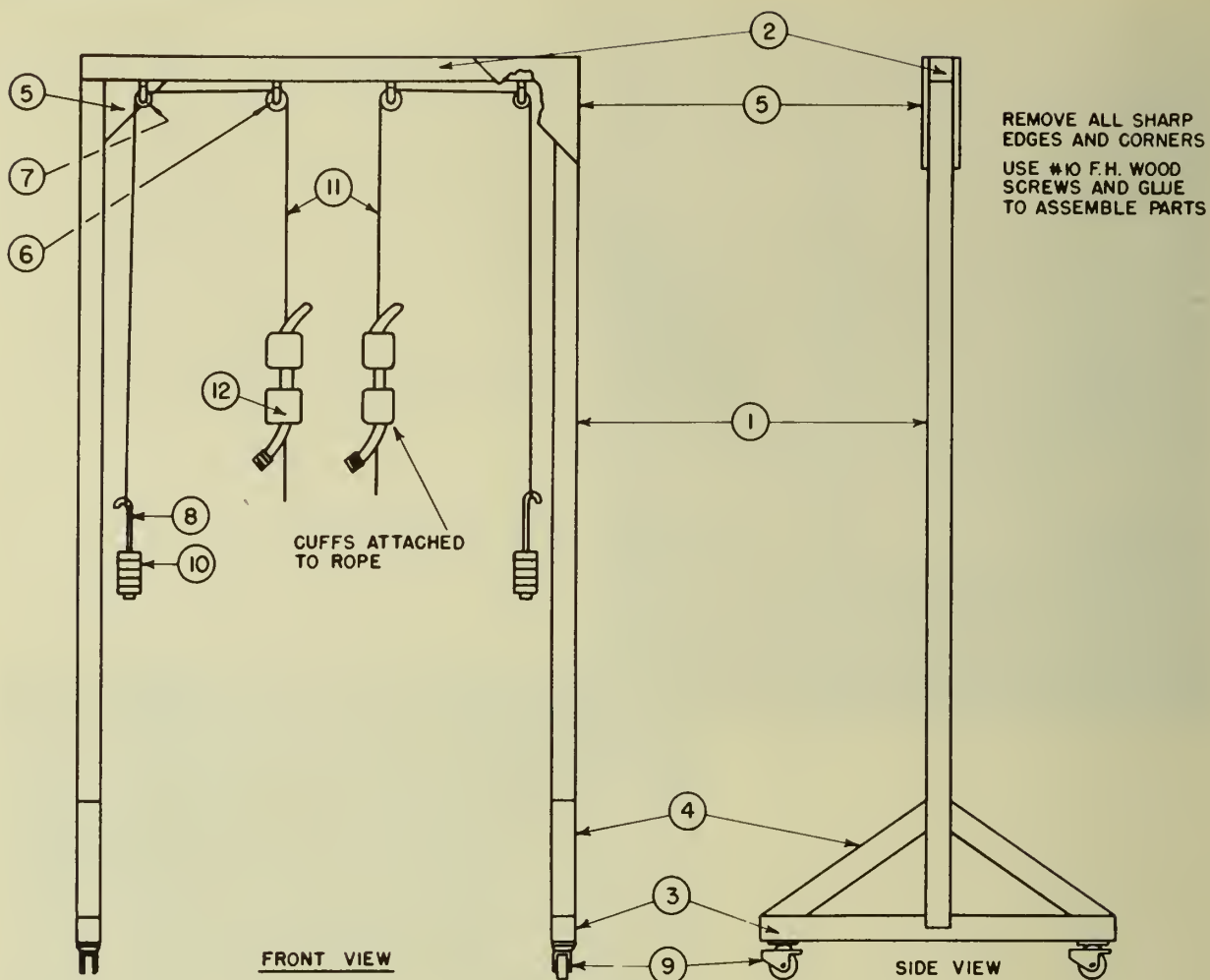
In the absence of stretch reflexes, a weighted pulley arrangement may be used effectively for lower extremity exercises. The muscle power and voluntary control determines amount of weight needed on pulleys. A decrease in weight indicates improvement. The pulley apparatus may be used as a change in routine of table exercises. By

changing the position of the cuff which supports the extremity, different movements or combination of movements can be obtained. Prone lying as well as back lying exercises may be used.

The frame on casters to which pulleys are attached facilitates moving the equipment from patient to patient.

CEREBRAL PALSY EQUIPMENT

PULLEYS, WEIGHTED



BILL OF MATERIALS				
Part No.	Name of Part	No. Required	Material	Remarks
1	Uprights	2	Wood	2" x 2" x 72"
2	Cross Bar	1	Wood	2" x 2" x 42"
3	Bases	2	Wood	2" x 2" x 30"
4	Base Supports	4	Wood	2" x 2" x 18"
5	Fillets	4	Plywood	1/2" x 10" x 10"
6	Large Pulleys	2	Steel	Fixed type, 1 3/4" Dia.
7	Small Pulleys	2	Steel	Fixed type, 1" Dia.
8	Hooks	2	Steel	1/4" Dia., Length to suit
9	Swivel Casters	4	Steel	1 5/8" Dia.
10	Weights		Lead	
11	Rope		Sash Cord	
12	Leather Cuffs	2 pair		

Variety Club, Cerebral Palsy Department, Children's Hospital, Buffalo, N. Y.

PUZZLE WITH KNOBS



Addition of knobs to the movable pieces makes a puzzle easier to handle.

Curative Workshop of Milwaukee, Milwaukee, Wis.

PUZZLE WITH KNOBS

Occupational Therapy—Special Education

Among standard play materials, puzzles are especially valuable because they provide excellent opportunity for eye-to-hand coordination.

For the severely handicapped cerebral palsied child, flat puzzles are often too difficult to manipulate. The addition of a small knob to each movable piece of a home-made or commercial puzzle may make it possible for a child to use a puzzle.

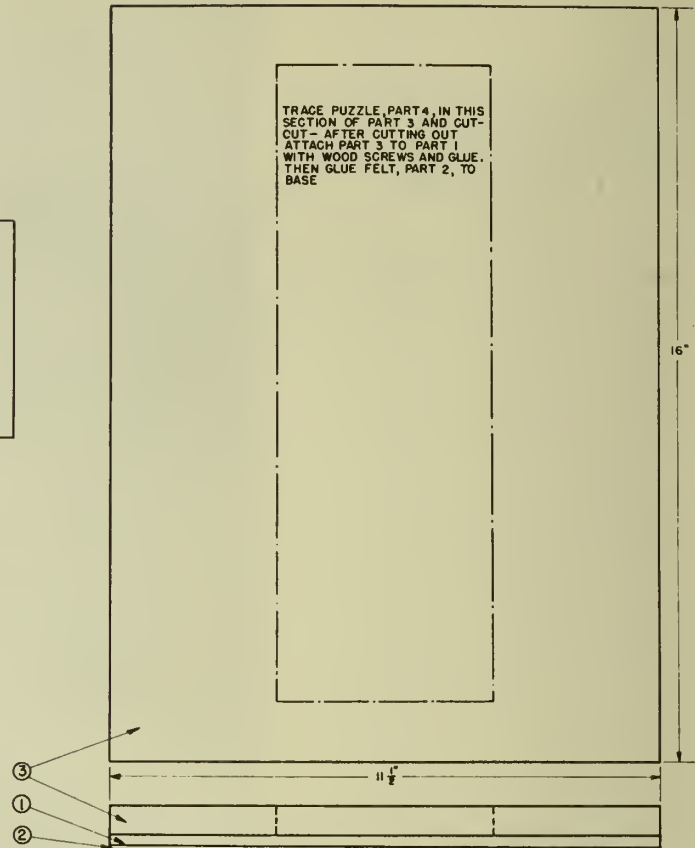
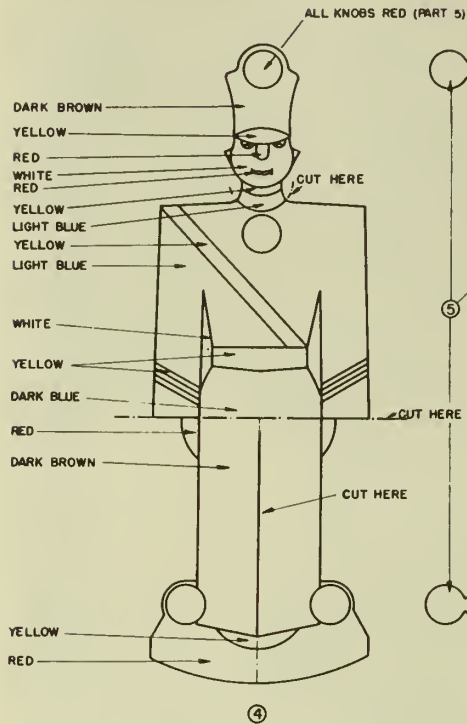
When designing or buying puzzles, special attention should be given to the design, which

should be simple and in clear colors. Complicated designs with many small pieces should be avoided.

Directions: Cut out design in puzzle board. Attach puzzle board to base. Cut out puzzle design according to pattern in diagram. Paint all pieces using non-poisonous enamel paints. Attach knobs to puzzle pieces. Felt glued to under side of base will make puzzle less slippery. Be sure that all pieces are smoothly sanded, particularly on the edges, and that all the pieces fit together accurately and easily.

No. 78

PUZZLE WITH KNOBS



BILL OF MATERIALS				
Part No.	Name of Part	No. Required	Material	Remarks
1	Base	1	Plywood	$\frac{3}{16}$ " x $11\frac{1}{2}$ " x 16"
2	Felt Base	1	Felt	$11\frac{1}{2}$ " x 16"
3	Puzzle Board	1	Wood	$\frac{5}{8}$ " x $11\frac{1}{2}$ " x 16"
4	Puzzle	1	Wood	$\frac{5}{8}$ " x $4\frac{1}{2}$ " x $13\frac{1}{2}$ " See Detail
5	Knobs	4	Wood	1" Diameter

Curative Workshop of Milwaukee, Milwaukee, Wis.

RECIPROCATION BOARD



Mastery of reciprocal motion is necessary before child learns to walk.

Cerebral Palsy Center, Iowa Society for Crippled Children and Adults, Inc., Des Moines, Iowa

RECIPROCATION BOARD

Physical Therapy

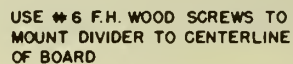
Teaching a reciprocal pattern of motion for the legs before a child can stand usually is done through formal exercises. Many times these formal exercises become uninteresting to the child. The reciprocation board may be used as a variation of the usual procedures. At first he may need assistance. Incidental to learning the reciprocal pattern, he also gains strength in the

muscles of the lower extremities. By encouraging full range of motion there may be active stretching of hamstrings and quadriceps. The feet should be kept flat on the board during flexion and extension of hips and knees.

The board may be used on a wall beside the treatment table or hung near the floor when the child is treated on a floor mat.

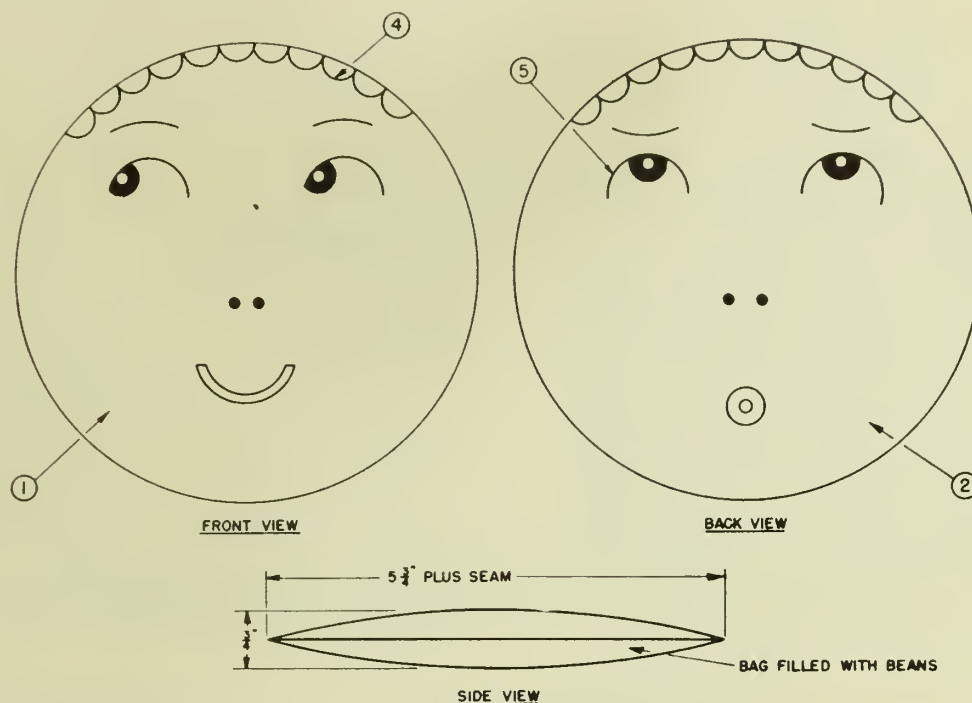
No. 79

RECIPROCATION BOARD



Cerebral Palsy Center, Iowu Society for Crippled Children and Adults, Inc., Des Moines, Iowu

RELAXATION AID: BEAN BAG



A bean bag has a variety of uses.

Children's Hospital Society, Los Angeles, Calif.

RELAXATION AID: BEAN BAG

Occupational Therapy—Physical Therapy—Special Education—Speech

Bean bags have many uses in the treatment and training of the cerebral palsied child. They are excellent toys for piling, dropping, throwing and catching and in either simple or complicated games. Used on the hand or forearm, they can demonstrate loss of relaxation. Used on the head, they can demonstrate loss of relaxation or loss of balance.

The cerebral palsied child is often taught head balance sitting in front of a mirror with a bean bag on his head so that he can see as well as feel which muscles he must learn to tighten and which he must learn to relax. As he progresses, he can work with the bean bag without the mirror.

Show the patient the "smiling" side of the bean bag and place it on top of his head. When balance is lost and the bag falls off, show him the "surprised" side. Replace it on his head, and

tell him to try to make the bean bag smile again by keeping it balanced.

Directions: Make an inner bag, one-half inch smaller than diagram, and fill with dried beans. Outer covering can be removed easily for frequent laundering. Make outer covering of double thickness muslin, with the face design either embroidered or stencilled. Allow plenty of material for seams and stitch securely. The thinner and more flexible the bean bag, the easier it is to keep it balanced. As the child's control improves, the bag may be made plumper.

Bean bags having different facial expressions, shapings of the lips and little protruding red tongues may be used to stimulate exercises for speech. The lip configurations also may be used to suggest vowel sounds or expressions, as the rounded lips suggesting the word "Oh!"

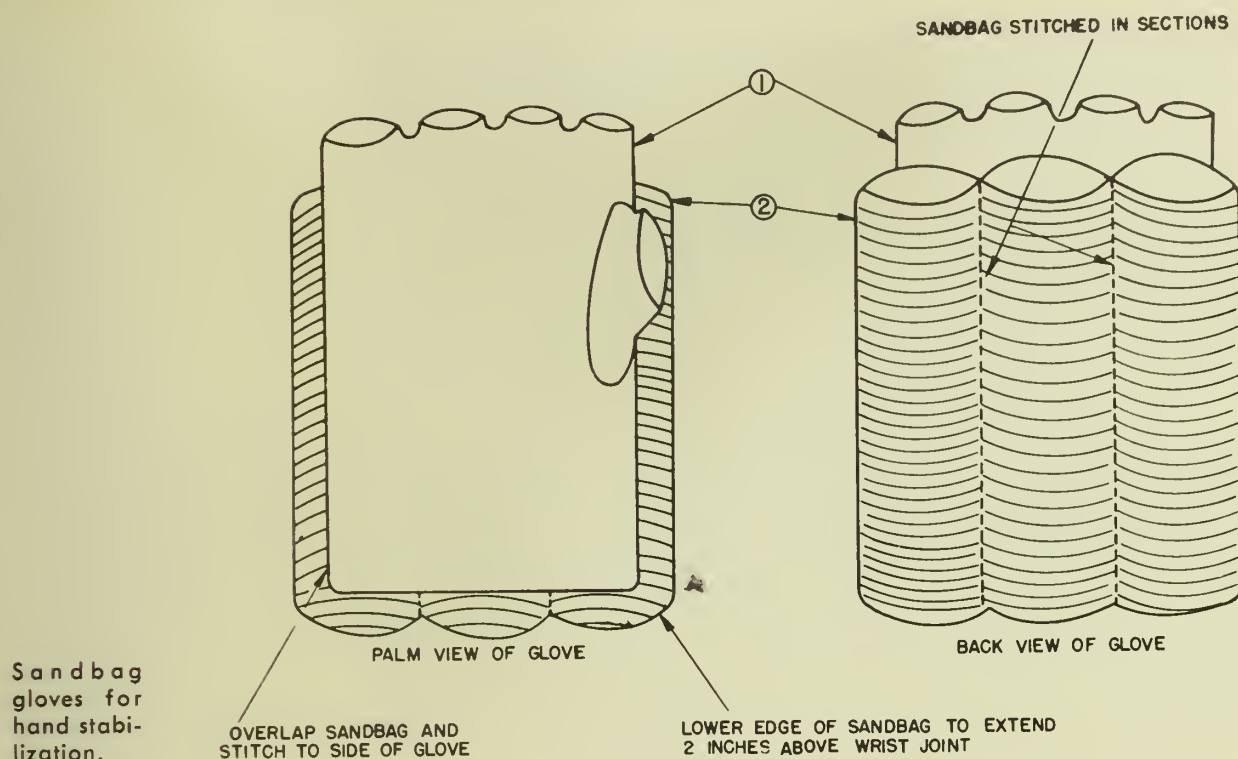
No. 80

RELAXATION AID: BEAN BAG

BILL OF MATERIALS				
Part No.	Name of Part	No. Required	Material	Remarks
1	Front	1	Muslin	Double Thickness
2	Back	1	Muslin	Double Thickness
3	Beans	1 cup	Dried Beans	
4	Hair		Yarn	
5	Face		Embroidery Thread	

Note: Make the inner bag (to contain beans) $\frac{1}{2}$ " smaller than diagram.

RELAXATION AID: SANDBAG GLOVE



Children's Hospital Society, Los Angeles, Calif.

RELAXATION AID: SANDBAG GLOVE

Occupational Therapy

To further relaxation of "the other hand" while working with one hand only, a sandbag glove may be used for certain cases. This should never weigh down the hand. It should be just heavy enough to serve as a reminder to the child to relax when motion in the arm and hand starts.

Materials: Loosely fitting glove. Sandbag made of closely woven material (such as duck) which does not allow sand to seep through.

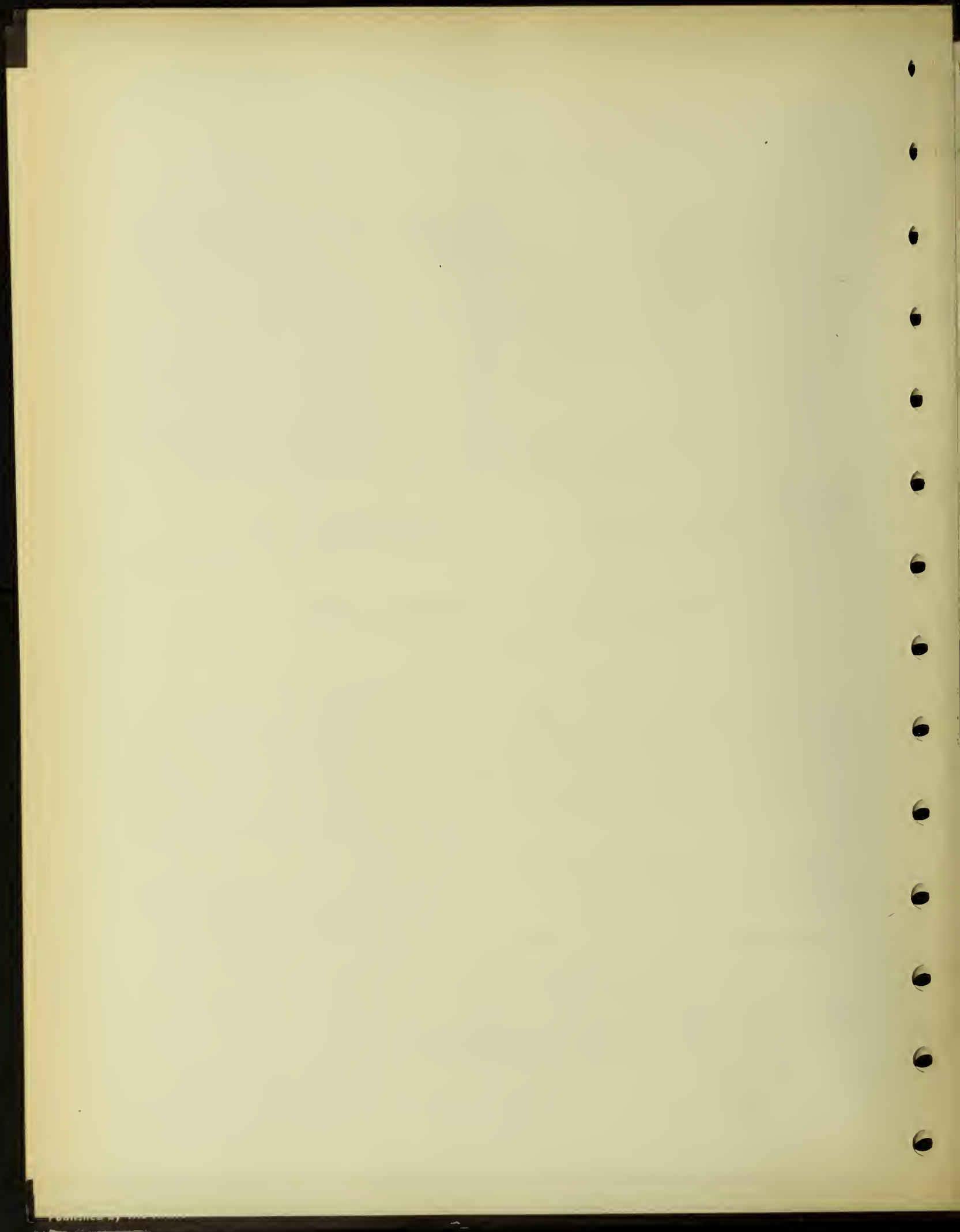
Directions: Use an old soft glove that fits the

hand loosely. Cut off the fingers and thumb of glove for finger freedom.

Make a sandbag which is wider than the glove and which will cover the entire back of the hand and wrist. Proximally, it should cover at least two inches of the lower part of the forearm. Distally, it should cover the metacarpo-phalangeal joints.

The sandbag should be stitched in sections to keep the weight of the sand equally distributed over the entire hand. Stitch the sandbag to the sides of the glove with a good overlap.

BILL OF MATERIALS				
Part No.	Name of Part	No. Required	Material	Remarks
1	Glove	1	Soft Duck	Cut off Fingers and Thumb
2	Sandbag	1	Duck	
3	Sand			



SANDBAG WEIGHTS



Weights for arm control.

Cerebral Palsy Pre-School Center, Lenox Hill Hospital and New York State Association for Crippled Children, Inc., New York, N. Y.

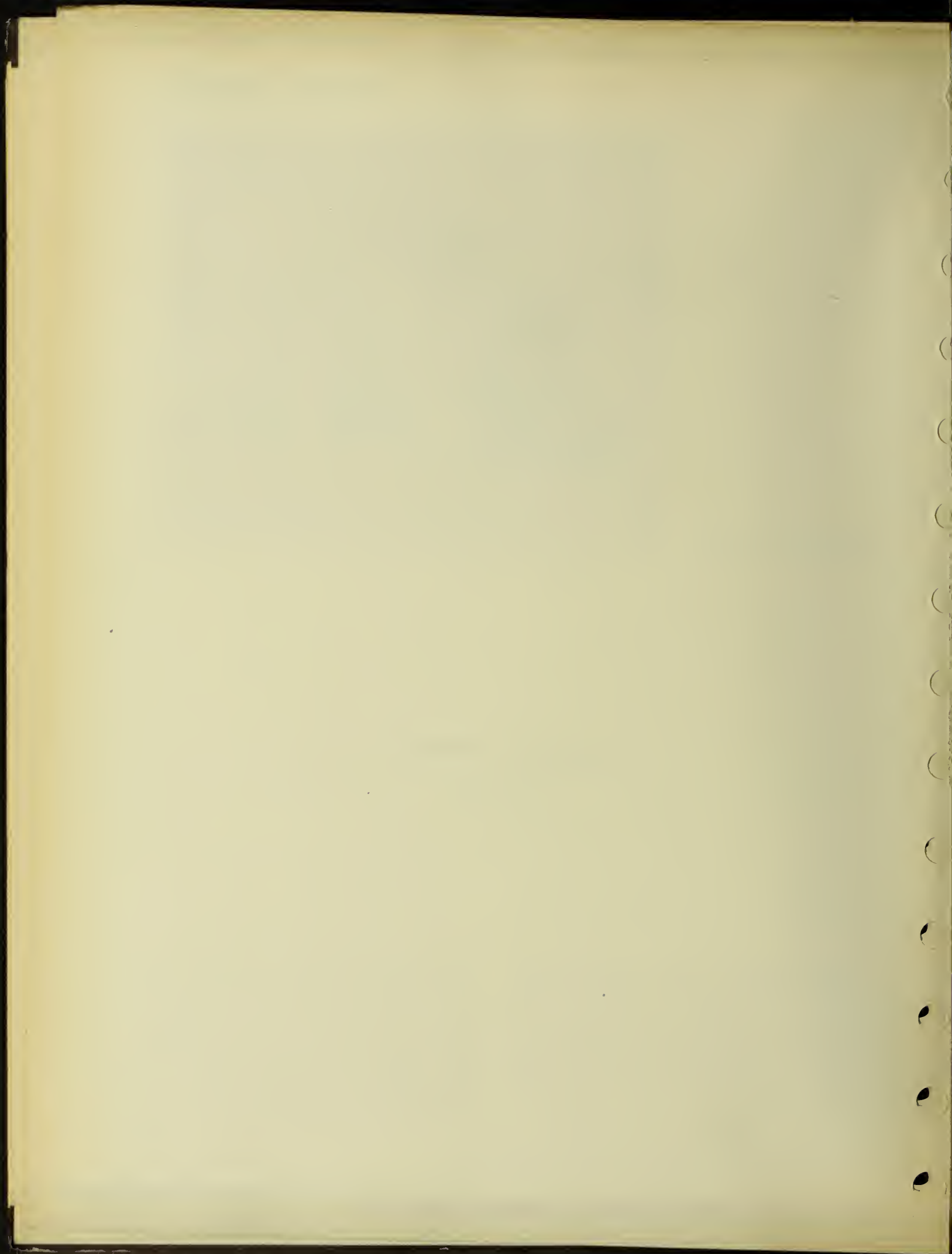
SANDBAG WEIGHTS

Physical Therapy

Severe athetosis of upper extremities often interferes with balance and walking training. The carrying of weights helps to keep the arms controlled so that the patient can maintain better balance and concentrate on gait. Two small weighted bags attached to a door handle are easy to grasp and carry.

The bags may be made from heavy canvas or duck and weighted with beans, sand, lead pellets or small rolls of sheet lead. The amount of weight should be determined for each individual. These weighted bags also may be raised by the feet for resistance in quadriceps strengthening.

No. 82



SANDBAGS, DIVIDED



Divided sandbags
are useful.

Sultan Foundation Nursery School for Handicapped Children, Hawaii Chapter, National Society for Crippled Children and Adults, Inc., Honolulu, Hawaii

DIVIDED SANDBAGS

Physical Therapy—Occupational Therapy—Speech

The divided sandbags may be made in various sizes. Large ones, for use across the trunk, should be long enough to reach from the hip to near the axilla. The material between the sand-filled parts should be wide enough to cover the trunk without pressure on chest and abdomen. Sandbags for legs should reach from mid-calf to mid-thigh; those for the arms, from mid-upper to mid-lower arm.

Measurements and weight on diagram are only suggested ones.

A strong material such as duck or a light-weight canvas is recommended. The sandbags

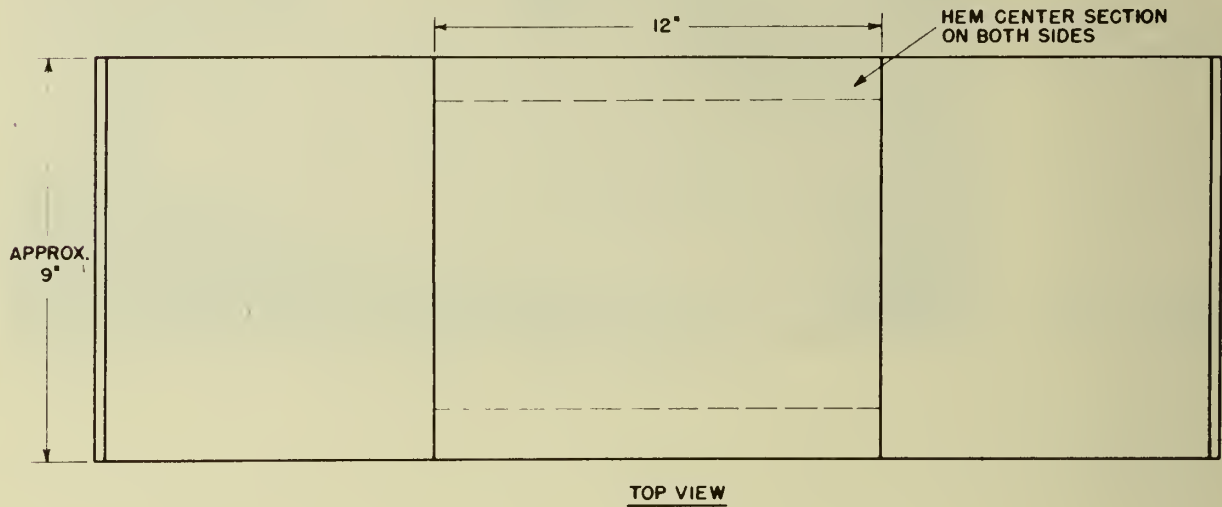
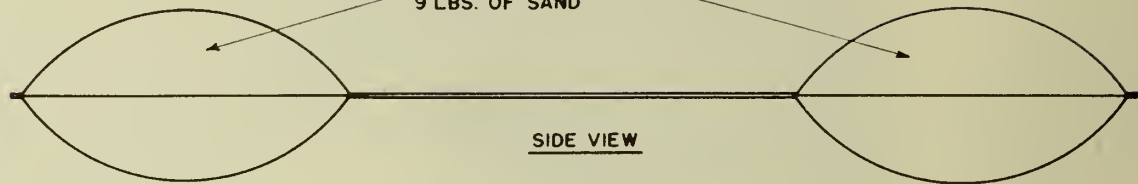
are useful in helping a child to feel secure on a treatment table. A small child with heavy sandbag over his trunk can safely be left unattended for a few minutes. The sandbags' chief use is for stabilization and control of extremities. Many times during table exercises sandbags are an aid to relaxation in the athetoid.

The speech therapist will find the divided sandbag very important in stabilization for speech training. This type of sandbag may be dressed up effectively as a pair of twin dolls or twin animals.

SANDBAGS, DIVIDED

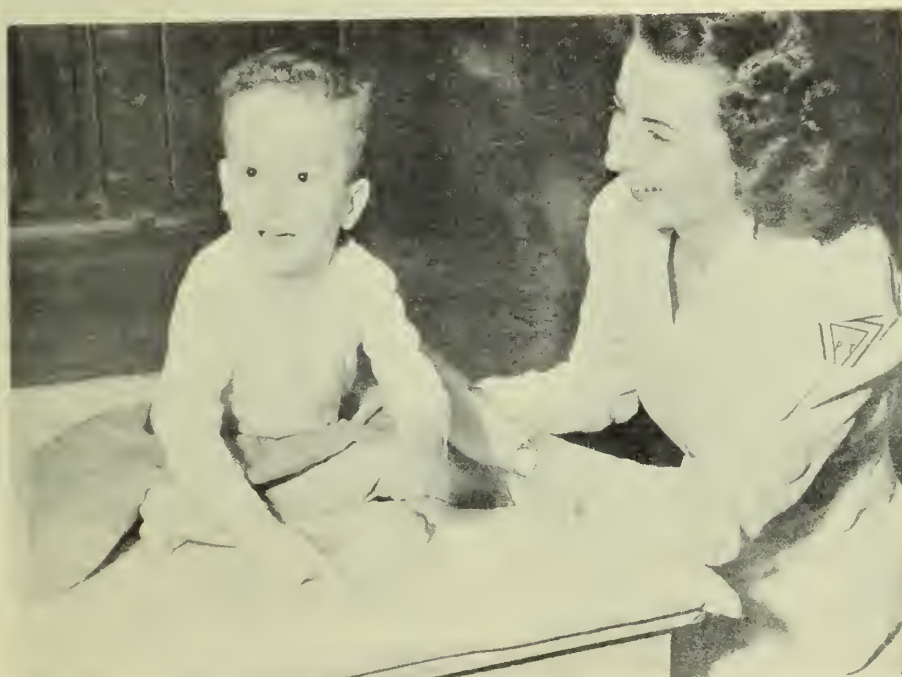
MATERIAL: CLOSELY WOVEN DUCK

EACH END FILLED WITH
9 LBS. OF SAND



Children's Rehabilitation Institute, Cackeysville, Md.

SANDBAGS, U-SHAPED



Sandbag support for sitting balance.

Cerebral Palsy Treatment Center, Franklin County Society for Crippled Children, Columbus, Ohio

U-SHAPED SANDBAGS

Physical Therapy—Occupational Therapy—Speech

A sandbag made in U-shape is useful in giving a feeling of security to a child who may be within a few degrees of maintaining his own balance.

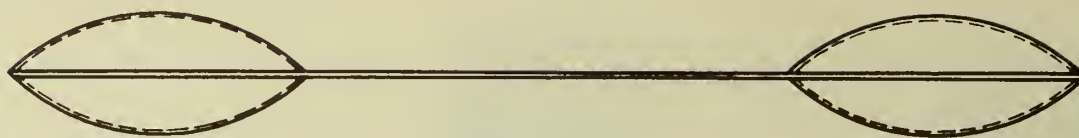
Sand is placed in the side pieces only. The center piece of material is left empty so that when placed across the extremities there is no discomfort from pressure. Weighted sides should

fit snugly around the trunk. An outside covering of washable or dark material is suggested.

For the use of sandbags in speech training refer to *Sandbag Toys*. The illustrated U-shaped sandbag suggests another modification of a sandbag that can be dressed up for the speech therapist.

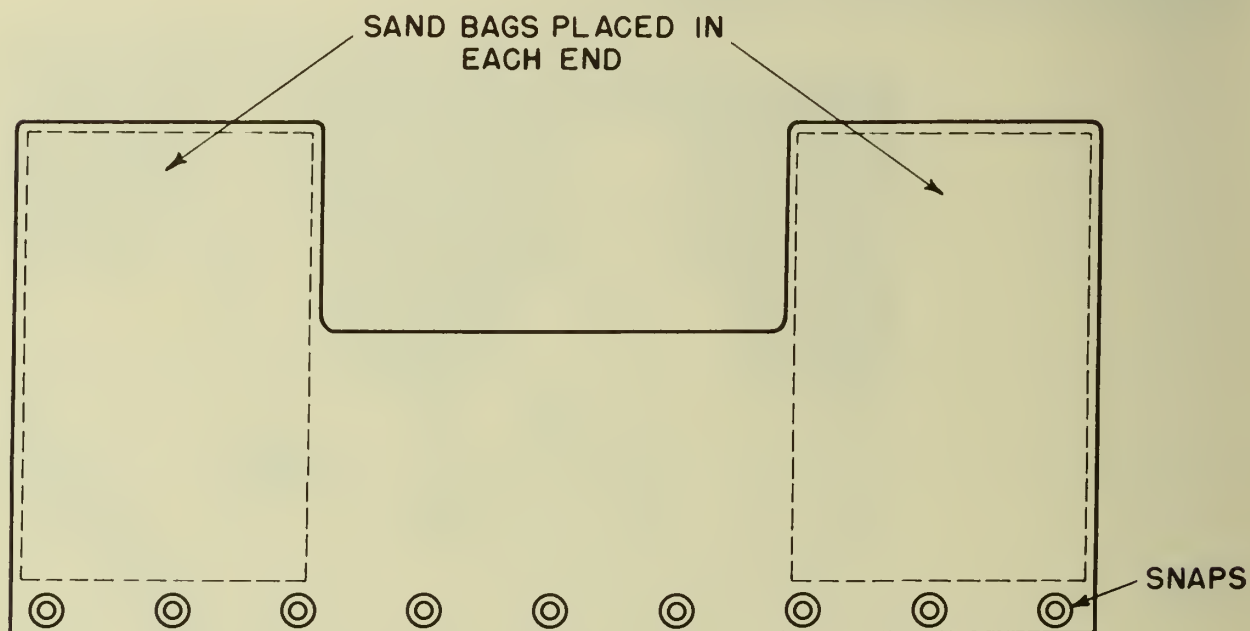
No. 84

SANDBAGS, U-SHAPED



SIDE VIEW

MATERIAL: CLOSELY WOVEN
DUCK



TOP VIEW

Cerebral Palsy Treatment Center, Franklin County Society for Crippled Children, Columbus, Ohio

SANDBOX, GROUP STANDING



Provides desirable group experiences.



Sunshine School for Physically Handicapped Children, San Diego, Calif.

GROUP STANDING SANDBOX

Special Education—Occupational Therapy—Physical Therapy

Sandbox play in a group may provide desirable social and emotional experiences and intellectual stimulation through experimentation.

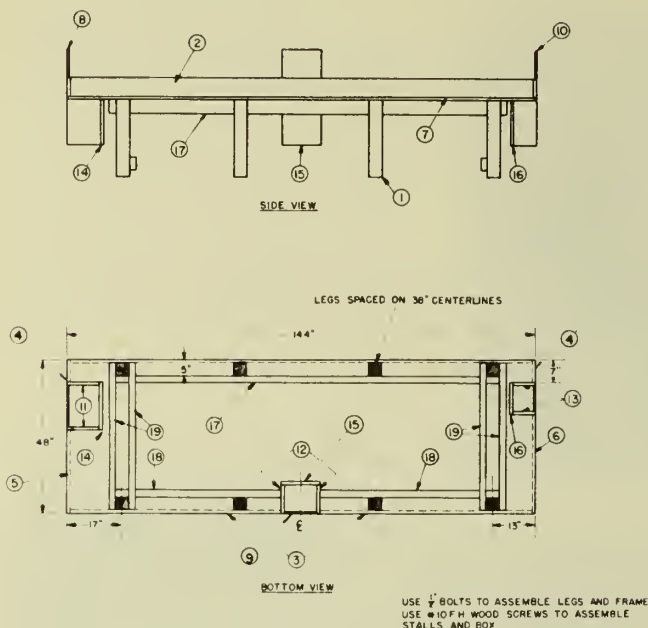
This sandbox has three stand-up booths of various depths to accommodate children of different sizes. There is space between these booths for wheel chairs and walkers, which may be pushed in and fitted up close to the sandbox. Adjacent to the stand-up portion of the table is

a section at ground level which provides a plank bench along the sides that may be suitable for sitting or standing.

The stall provides an opportunity during play-time for long periods of standing experience for the child who is ready for, and needs it. (For further uses and precautions refer to *Group Standing Tables*.)

No. 85

SANDBOX, GROUP STANDING

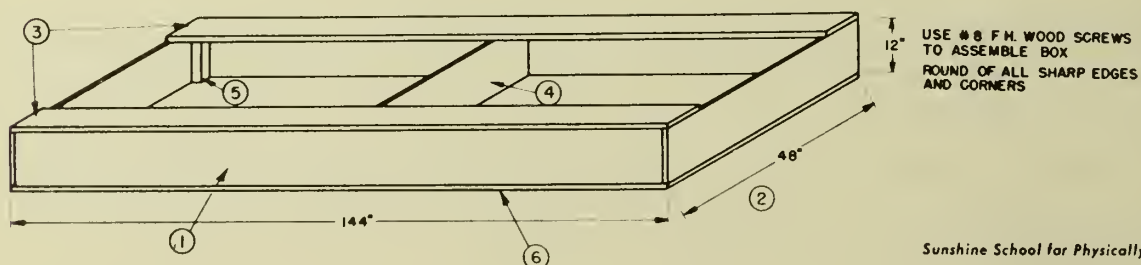


BILL OF MATERIALS—STAND-UP

Part No.	Name of Part	No. Required	Material	Remarks
1	Legs	8	Wood	4" x 4" x 24"
2	Side	1	Wood	1" x 6" x 142"
3	Side	2	Wood	1" x 6" x 65"
4	Ends	2	Wood	1" x 6" x 7"
5	End	1	Wood	1" x 6" x 26"
6	End	1	Wood	1" x 6" x 31"
7	Flooring	8	Wood	3/4" x 6" x 144" Tongue and Groove
8	Back	1	Wood	3/4" x 13" x 30"
9	Back	1	Wood	3/4" x 10" x 30"
10	Back	1	Wood	3/4" x 8" x 30"
11	Stall Sides	2	Wood	1" x 9" x 21"
12	Stall Sides	2	Wood	1" x 8" x 21"
13	Stall Sides	2	Wood	1" x 6" x 21"
14	Stall Front	1	Wood	1" x 15" x 21"
15	Stall Front	1	Wood	1" x 12" x 21"
16	Stall Front	1	Wood	1" x 10" x 21"
17	Frame Side	1	Wood	2" x 4" x 118"
18	Frame Sides	2	Wood	2" x 4" x 53"
19	Frame Ends	4	Wood	2" x 4" x 46"
20	Barrel Bolts	3	Steel	
21	Hinges	6	Steel	

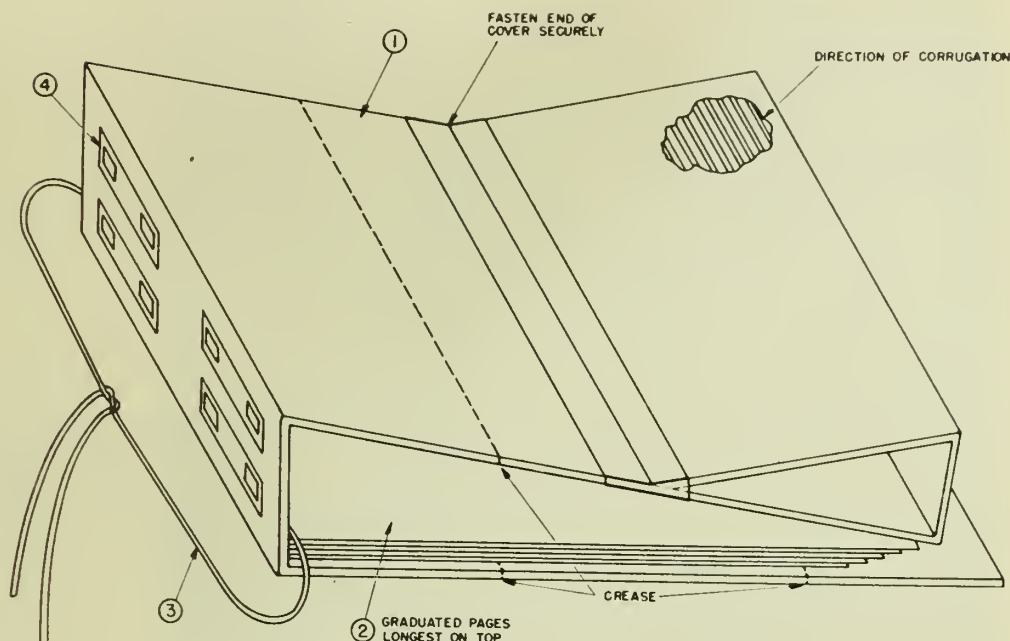
BILL OF MATERIALS—FLOOR-TYPE

Part No.	Name of Part	No. Required	Material	Remarks
1	Sides	2	Wood	3/4" x 12" x 142 1/2"
2	Ends	2	Wood	3/4" x 12" x 48"
3	Seats	2	Wood	3/4" x 8" x 144"
4	Center Piece	1	Wood	3/4" x 12" x 46 1/2"
5	Corner Supports	4	Wood	2" x 2" x 12"
6	Flooring	6	Wood	3/4" x 8" x 144" Tongue and Groove



Sunshine School for Physically Handicapped Children, San Diego, Calif.

SCRAPBOOK



Child's personal scrapbook.

Children's Hospital Society, Los Angeles, Calif.

SCRAPBOOK

Occupational Therapy—Speech—Special Education

This easy-to-handle scrapbook can be used for several purposes. It can serve as a picture book for a small child. It can be used by an older child to store a collection of postcards or "trading cards." The adolescent or adult might use it as an adjunct to a hobby by keeping clippings, correspondence or matchbook covers in it.

Such a notebook could have many uses in connection with speech therapy. Pictures mounted in the notebook could represent words in the child's vocabulary. Pictures of sound-producing objects can represent individual sounds a child can make, as, a picture of a dove can be associated with the vowel sound in the word "boot." Other pictures of a more general nature can be gathered to stimulate conversation. The notebook is an excellent device for collecting memos of a child's speech successes which can be made permanent by constant review. Remembering the high

probability of distractability in the cerebral palsied child, the pictures should be large and clear, with little detail. Having one page to a picture is usually advisable.

Directions: The book is made of stiff corrugated cardboard, with the corrugations running up and down.

The covers are creased so they can be opened with ease.

The top cover is looped back on itself and fastened down with adhesive tape for hand insertion.

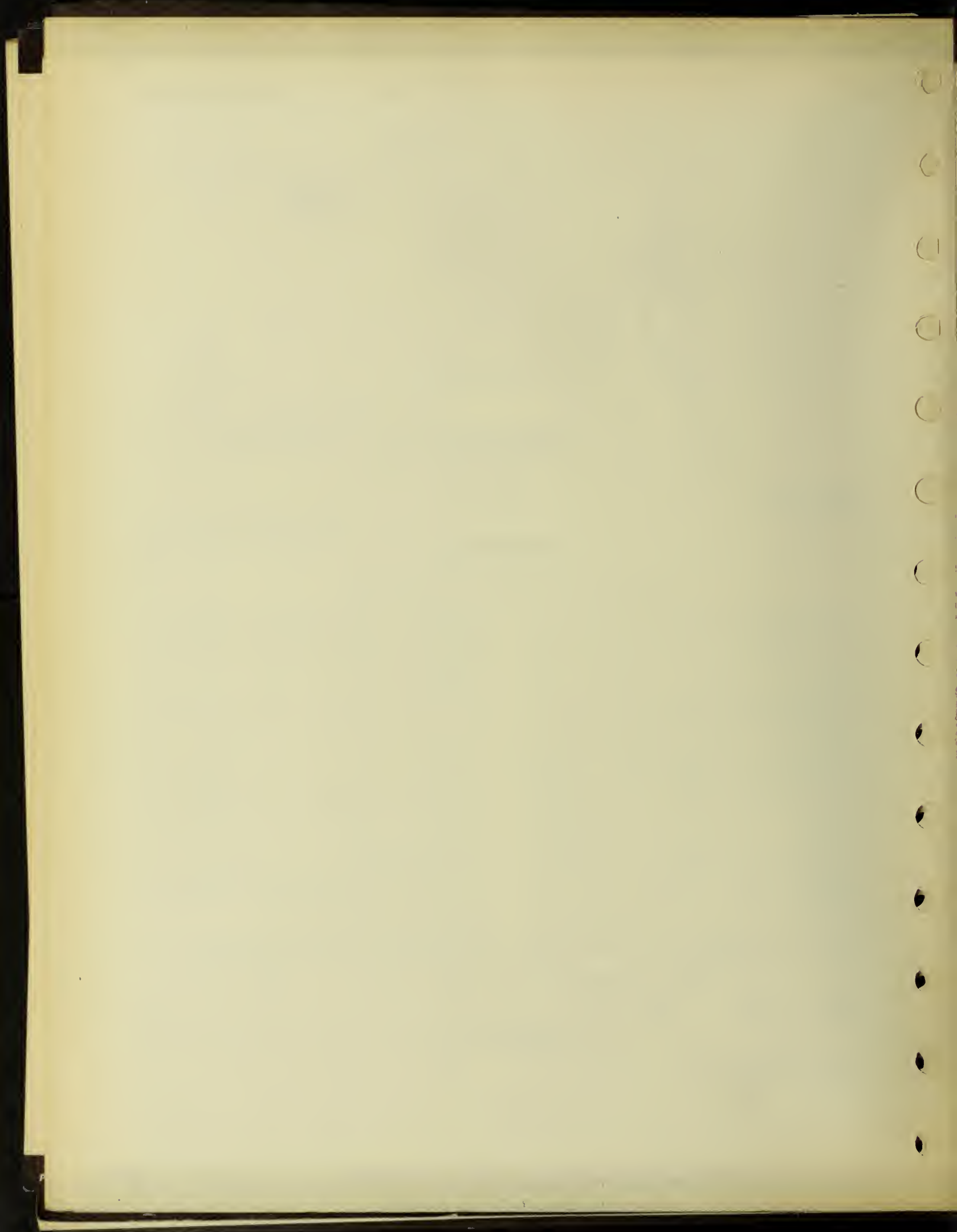
The pages are graduated (longest on top) to facilitate turning.

Metal binder tabs are used to hold the pages.

A rope or cord is looped through the back with free ends to tie around the table.

Dimensions are determined by the size of the child and by what the scrapbook is to contain.

BILL OF MATERIALS			
Part No.	Name of Part	No. Required	Material
1	Cover	1	Stiff Corrugated Cardboard
2	Pages		Heavy Tough Paper
3	Smooth Rope or Cord		
4	Binder Tabs	4	Metal



SHELVES



Toys on shelves are easily accessible.

The James Archer O'Reilly Training Center, St. Louis Society for Crippled Children, St. Louis, Mo.

SHELVES

General Equipment

If shelves are low and easily accessible, the child in a chair on a platform, the child who creeps, the child who walks with or without assistance can easily select and choose his own toys. He can get them out and put them away, with or without assistance.

Toys placed on shelves help a child keep his toys in an orderly manner, give him a feeling of independence and may encourage speech. The non-talking child can point or look in the direction of the toy he desires. If the child also attempts to verbalize as he focuses his eyes on a toy, he will be more readily understood by the adult.

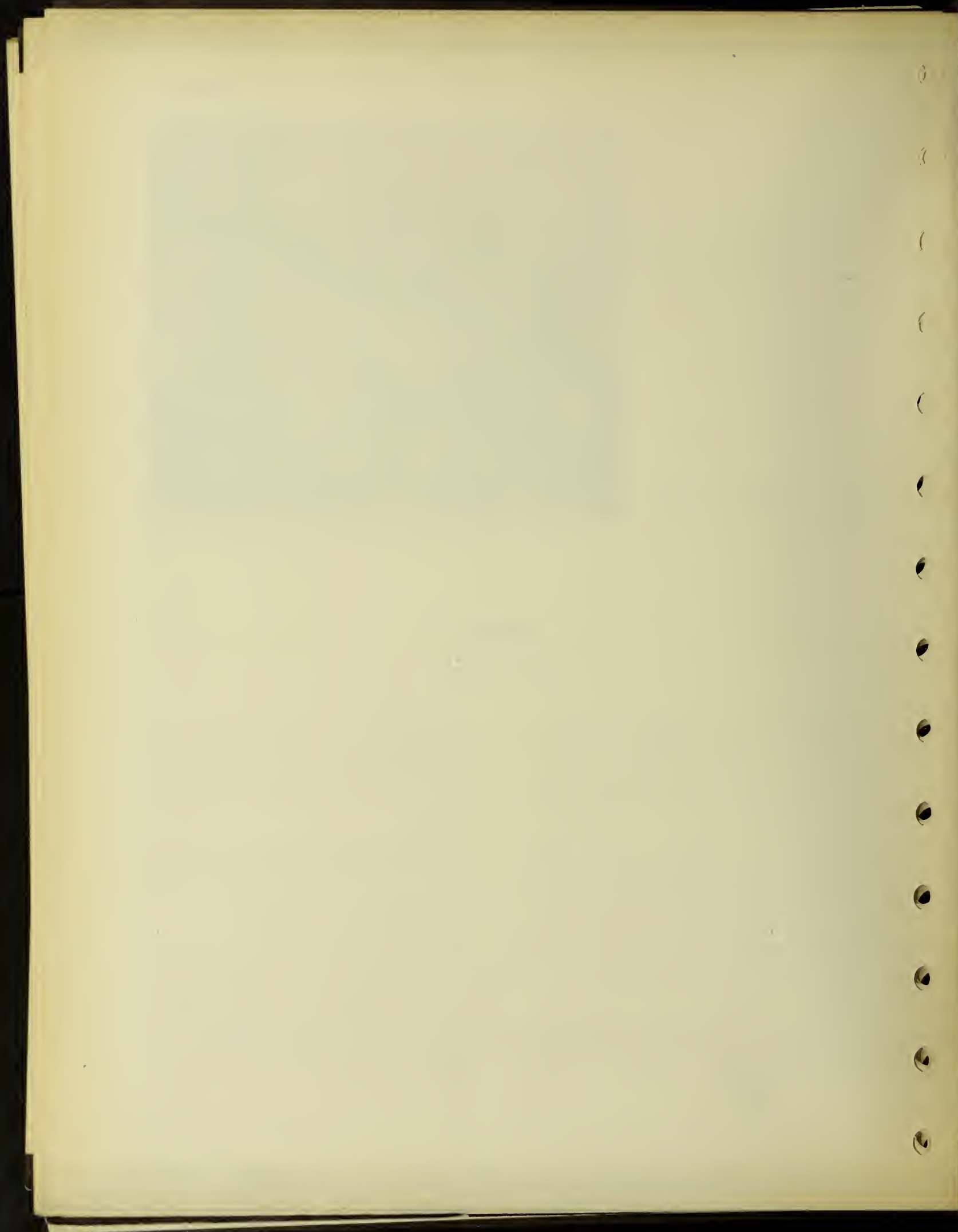
Bars or rails attached either perpendicularly at the cross-sections or parallel along each shelf may help to give more independence to the child who creeps or stands.

Measurements and directions: The number, size and shape of shelves will be determined by: the age, size and degree of physical handicap of children they will serve; the area in which they will be placed; type of work and play materials they will hold.

Generally, shelves should not be less than 12 inches deep with 12 inches between shelves. Such toys as large hollow blocks and building blocks, etc., will require lower and larger shelves.

All shelves should be made of wood which will not splinter easily or develop rough edges. The wood should be hard enough to support bars or rails. Shelves should be screwed to the walls or secured to the floor to prevent tipping.

Material needed: lumber, glue, nails, screws, rails (if needed).



SKIS, SHORT



Short skis may be the last step before independent walking.

Children's Rehabilitative Institute Cockeysville, Md.

SHORT SKIS

Physical Therapy

When a child has progressed to the place where he can balance with little assistance, the final step toward independent walking may be the use of short skis. They offer a slightly wider base than shoes on which to stand and walk. If there is a problem of rotation of the legs, the inside boards are indicated. An increase of one to two

inches in width of skis may be needed for more abduction as an aid to lateral stability. This should be decided on an individual basis. Decrease width of boards as soon as balance permits. Measurements on diagram are only suggested ones.

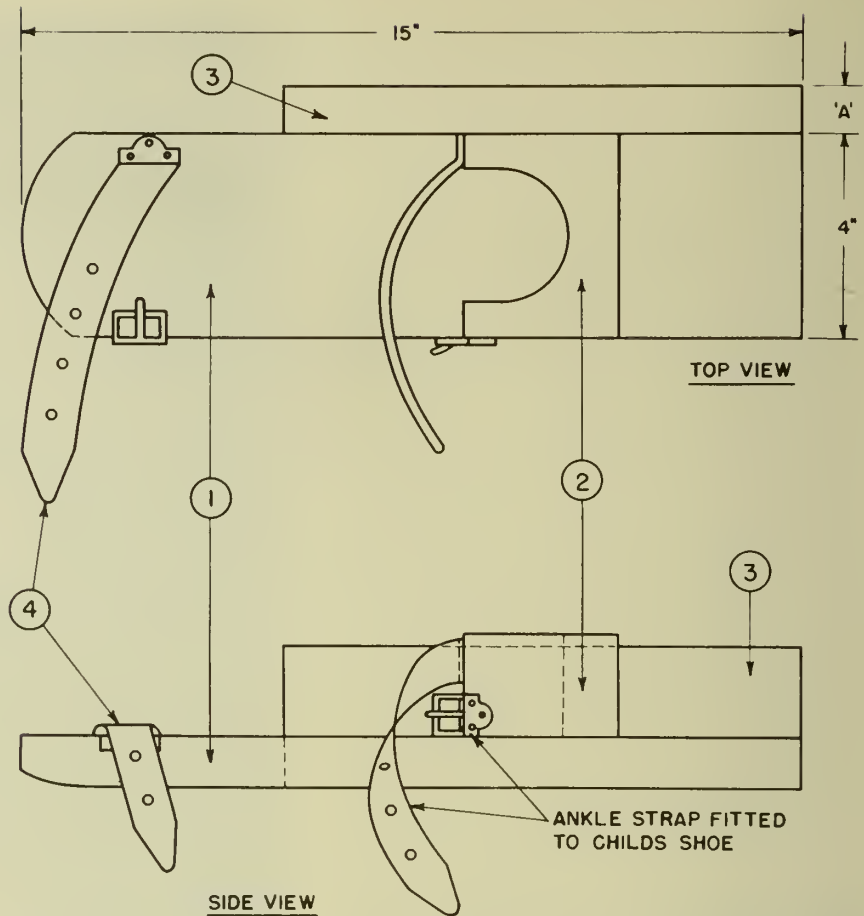
No. 88

SKIS, SHORT

REMOVE ALL SHARP EDGES
AND CORNERS

USE #10 F.H. WOOD SCREWS
TO ASSEMBLE PARTS

'A' DIMENSION TO VARY AC-
CORDING TO LATERAL
STABILITY REQUIRED BY
CHILD



BILL OF MATERIALS

Part No.	Name of Part	No. Required	Material	Remarks
1	Bases	2	Wood	$\frac{3}{4}$ " x 4" x 15"
2	Heel Blocks	2	Wood	2" x 3" x 4"
3	Spacers	2	Wood	A x $2\frac{3}{4}$ " x 10"
4	Straps and Buckles	4 Sets	Leather	

Children's Rehabilitation Institute, Cockeysville, Md.

SKIS WITH POLES



Skis are an aid to locomotion and balance.

Children's Rehabilitation Institute, Cockeysville, Md.

SKIS WITH POLES

Physical Therapy

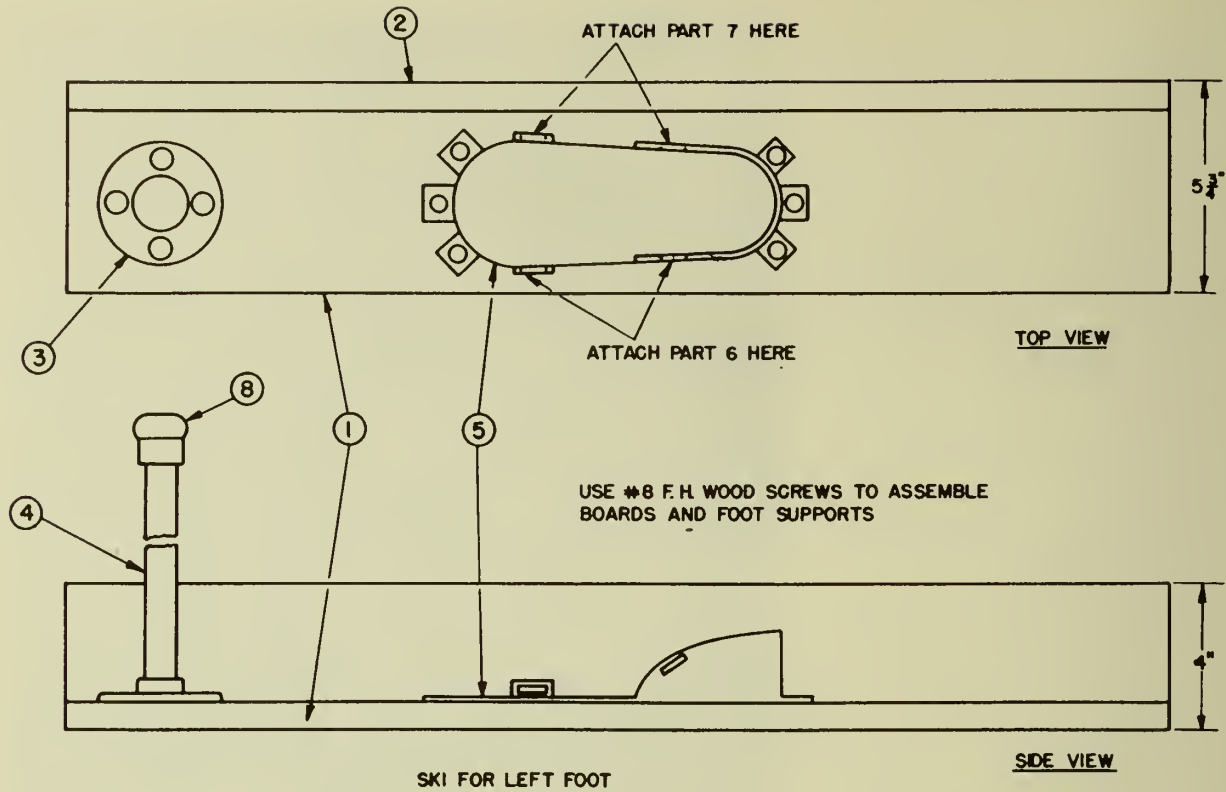
Walking and balance training are greatly aided by the use of skis. The ski base, which should be approximately three times the length of the patient's foot, gives a broad base on which to balance. The shoe attachment holds the foot in proper position for weight bearing. Poles at the front of skis provide the necessary support for maintaining anterior-posterior posture. As a safety measure, the poles should be higher than eye level and protected by erutch tips at the ends. Upright boards on inner sides of skis prevent rotation of legs and crossing of skis when patient has a tendency to seissor.

Aside from a balance aid, the skis are equally useful in training a child to move one foot ahead of the other in a reciprocal fashion. Reciprocal action of arms in relation to that of the feet can be taught after the child has sufficient balance and confidence to remove poles. The length of the skis may be decreased gradually until unassisted walking is possible.

It may be necessary for the therapist to assist a child in using the skis at the beginning of training. Such assistance should be eliminated gradually.

CEREBRAL PALSY EQUIPMENT

SKIS WITH POLES

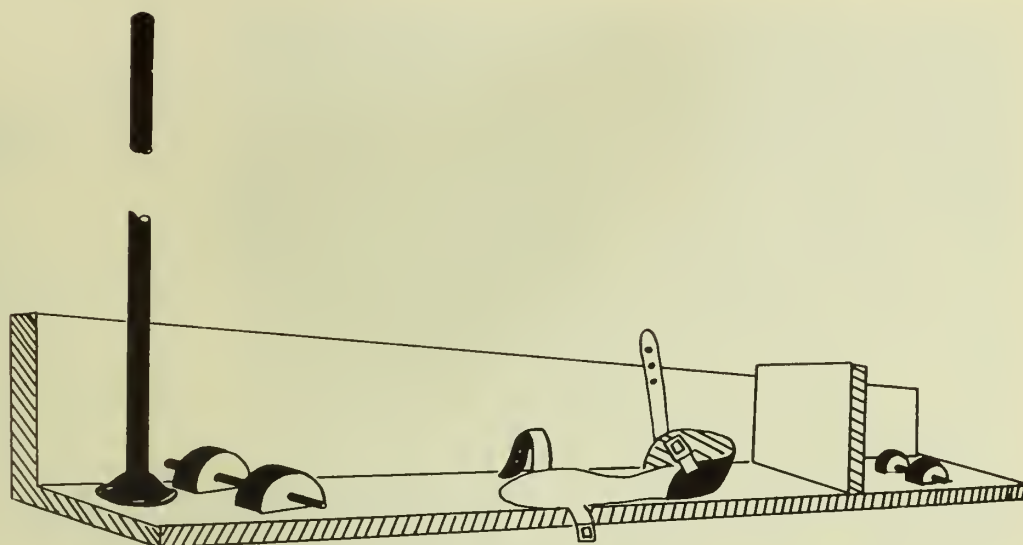


BILL OF MATERIALS				
Part No.	Name of Part	No. Required	Material	Remarks
1	Footboards	2	3/4" White Pine or 1/2" Plywood	3 x length of foot—2" wider than shoe
2	Side Boards	2	Wood	3/4" x 2"—same length as ski base
3	Flanges	2	Steel	5/8" to 3/4" Pipe Floor Flange
4	Poles	2	Steel	5/8" to 3/4" Pipe few inches above eye level of child
5	Shoe Attachment	2	Steel or Wood	Size of Patient's foot
6	Buckles	4	Steel	Roller Skate Size
7	Straps	4	Leather	Roller Skate Size
8	Guard for Poles	2	Rubber Crutch Tip	

Children's Rehabilitation Institute, Cockeysville, Md.

SKIS WITH ROLLERS AND POLES

Rollers make
reciprocal
motion easy.



Sigma Gamma Hospital School, Detroit Orthopaedic Clinic, Mt. Clemens, Mich.

SKIS WITH ROLLERS AND POLES

Physical Therapy

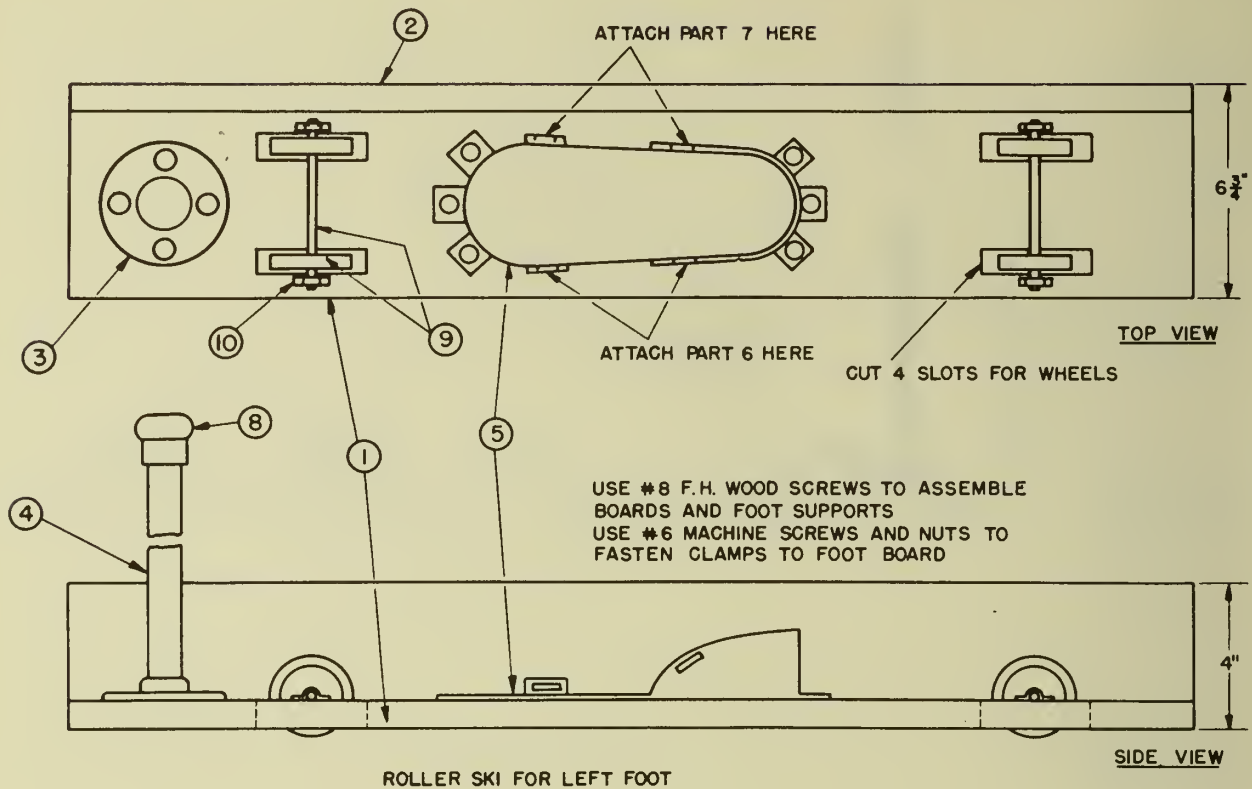
The standard ski may be modified by incorporating roller skate wheels at the back and front. Extremely weak hip flexors, interfering with active pushing of one foot ahead of the other, may indicate use of rollers. Friction is eliminated, thus making it easier for the patient to move in reciprocal pattern. The speed can be controlled

by adjusting the amount of free motion in roller and height of roller below ski base.

The patient needs supervision when using this type of ski. Any stimulation of tension or stretch reflex due to free movement should be considered a contraindication for use.

No. 90

SKIS WITH ROLLERS AND POLES



BILL OF MATERIALS				
Part No.	Name of Part	No. Required	Material	Remarks
1	Footboards	2	Wood	3/4" white Pine or 1/2" plywood 3x length of foot 2ins. wider than foot
2	Side Boards	2	Wood	3/4" x 2"
3	Flanges	2	Steel	5/8" to 3/4" Pipe Floor Flange
4	Poles	2	Steel	5/8" to 3/4" Pipe (height of Child—Plus)
5	Shoe Supports	2	Steel	1/32" Thick; 1 left, 1 right
6	Buckles	4	Steel	Roller Skate Size
7	Straps	4	Leather	Roller Skate Size
8	Guard	2	Rubber	Standard Crutch Tip
9	Wheel and Axles	4 sets	Steel	Roller Skate Size
10	Clamps	4	Steel	3/32" x 3/8" x 1 1/2"

Sigma Gamma Hospital School, Detroit Orthopaedic Clinic, Mt. Clemens, Mich.

SKIS WITH STABILIZER STRAP



Short skis with stabilizer strap are another progression toward independent walking.

Cerebral Palsy Treatment Center, Franklin County Society for Crippled Children, Columbus, Ohio

SKIS WITH STABILIZER STRAP

Physical Therapy

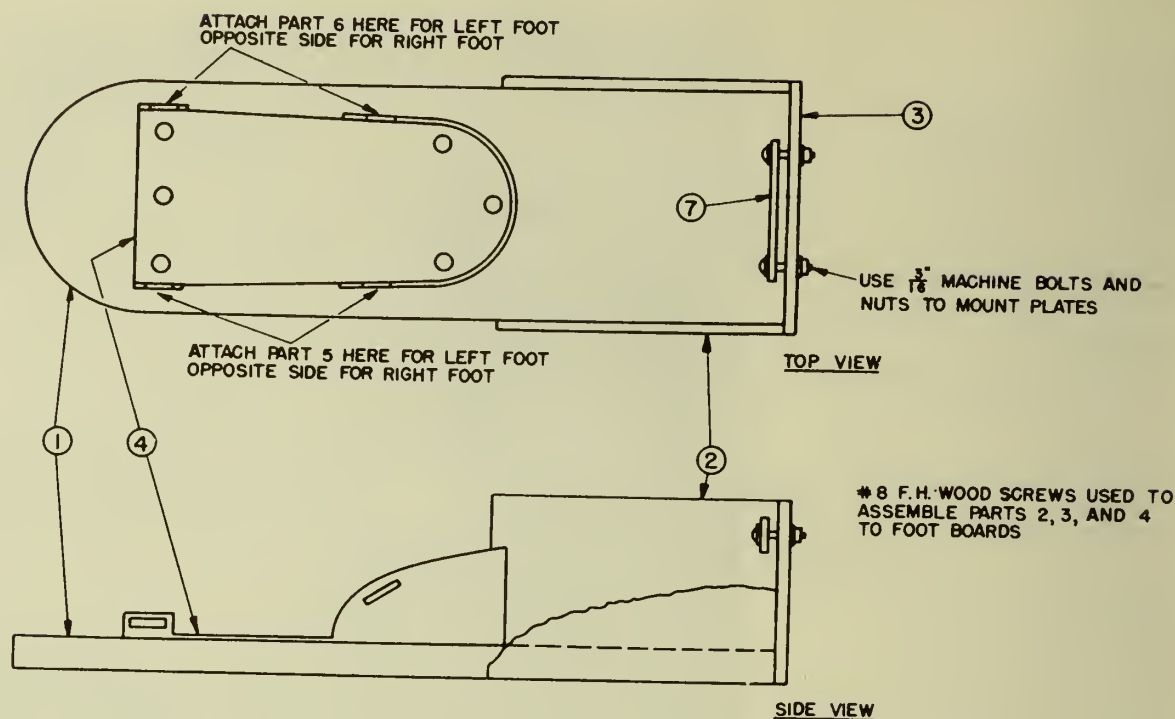
These modified short skis are useful when the child has progressed sufficiently in standing balance and reciprocal pattern to discard longer skis with poles. Straps for stabilization extending from posterior end of skis to calf band of braces are used. Tension on straps can be adjusted depending upon anterior—posterior balance. The ski base is only slightly longer than the shoe. Total length depends upon the size of box needed for extra weight in form of sandbags or bricks which are added at back of skis. If a child has a tendency to abduct, a C-clamp may be used on the inside of the posterior boxes.

The child usually progresses from this ski modification to standing balance and walking on short skis without stabilization strap. Use of modified skis should be determined by the individual's skills in balance.

Directions: The footboards and posterior boxes are made of wood. Leather or canvas straps can be used. Foot supports may be either wood or steel; the latter has proved more satisfactory. Measurements indicated on bill of materials are only suggested proportions. They should be adapted to size of patient.

CEREBRAL PALSY EQUIPMENT

SKIS WITH STABILIZER STRAP



BILL OF MATERIALS				
Part No.	Name of Part	No. Required	Material	Remarks
1	Footboards	2	Wood	$\frac{3}{4}$ " x 5" x 16"
2	Sides	4	Wood	$\frac{1}{4}$ " x 4" x 6"
3	Backs	2	Wood	$\frac{1}{4}$ " x 4" x 5 $\frac{1}{2}$ "
4	Foot Supports	2	Steel	$\frac{1}{16}$ " thick; 1 left, 1 right
5	Buckles	4	Steel	Roller Skate Size
6	Straps	4	Leather	Roller Skate Size
7	Brace Plate	2	Steel	$\frac{3}{32}$ " x $\frac{3}{4}$ " x 3"

Cerebral Palsy Treatment Center, Franklin County Society for Crippled Children, Columbus, Ohio

SLIDE WITH STEPS AND PLATFORM



Learning to use
steps and ramp.

Potomac Engineering Corporation, Chicago, Ill.

SLIDE WITH STEPS AND PLATFORM

Special Education—Physical Therapy

Steps and platform provide motivation for climbing, sliding, creeping, developing stepping movement and walking.

It is simple enough so many children may use it independently, or, if needed, with assistance. In a pre-school unit it also may serve as equipment for dramatic play and for singing time.

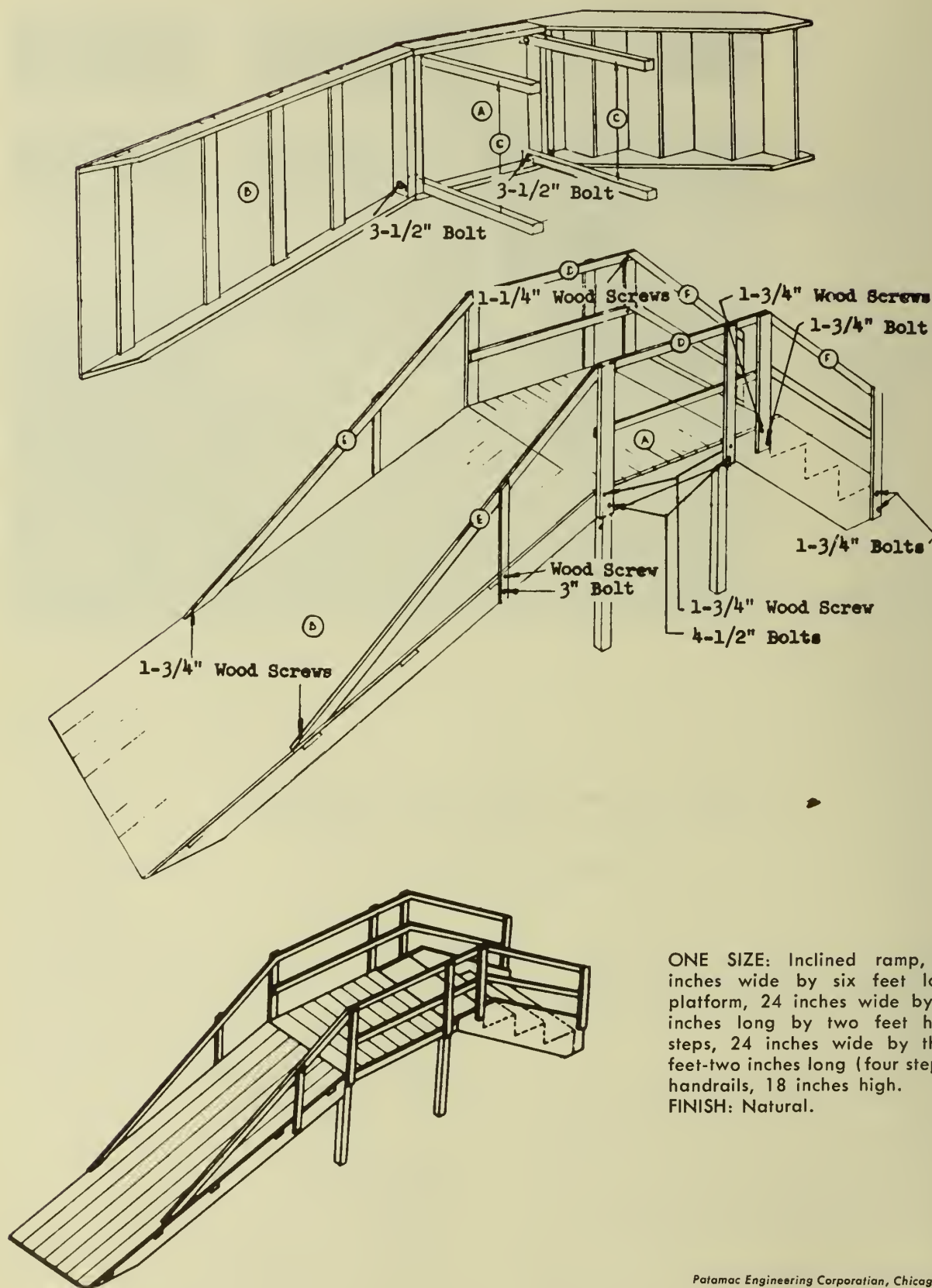
Instructions: The platform is constructed first.

The steps and inclined ramp are then attached to the platform. Rails are attached after all other parts are assembled. Wood should be sanded, painted or varnished frequently. Cracks may be filled with plastic wood.

Materials needed:

- lumber
- bolts
- screws

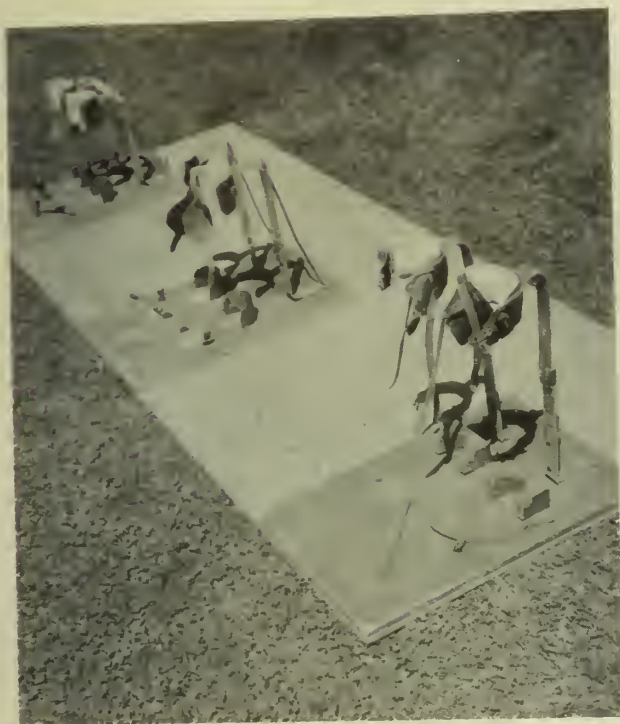
SLIDE WITH STEPS AND PLATFORM



ONE SIZE: Inclined ramp, 24 inches wide by six feet long; platform, 24 inches wide by 30 inches long by two feet high; steps, 24 inches wide by three feet-two inches long (four steps); handrails, 18 inches high.
FINISH: Natural.

Patamac Engineering Corporation, Chicago, Ill.

STABILIZER, ST. JAMES



(Above) Stabilization of legs for balance training.
(Right) Divided stabilizer for walking training.



Children's Rehabilitation Institute, Cockeysville, Md.

ST. JAMES STABILIZER

Physical Therapy

To acquire standing balance, a cerebral palsy patient must be put in a position to use the muscles required for that skill. The St. James stabilizer gives support to the lower extremities and at the same time leaves the trunk and upper extremities free for concentrated work on balance. The stabilizer reduces to a great extent the element of fear of falling. With the feet and legs supported securely, the patient can sway anteriorly-posteriorly and laterally while voluntarily attempting to control balance. When the head and trunk control is fairly well mastered, the stabilizer may be adjusted downward until balance skills are sufficient for the patient to stand without use of stabilizer. The adjustable feature also makes it possible to use one piece of equipment for children of varying heights.

Besides balance training, the stabilizer is useful in controlling lower extremities while coordination of arms and hands in preparation for crutch walking is being taught. The two skills may be accomplished concurrently.

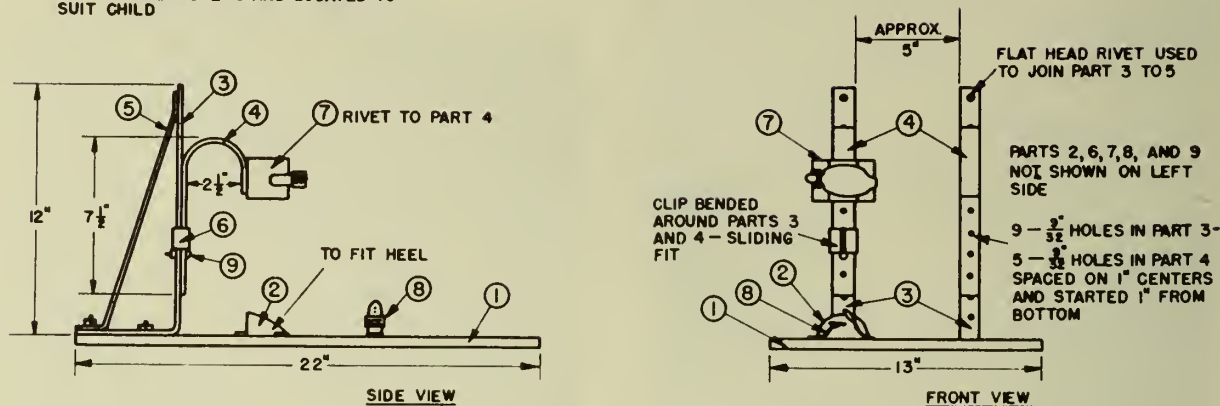
For beginning walkers, rotation boards are added to a divided stabilizer (photo right). Stabilizer may be used with or without braces depending upon need.

Caution: Do not try to progress too rapidly. Undue stimulation of stretch reflexes or involuntary movements indicate more stabilization is necessary or that patient is not ready for concentrated standing balance.

No. 93

STABILIZER, ST. JAMES

REMOVE ALL SHARP EDGES AND CORNERS
 PARTS 3 AND 5 BOLTED TO BASE
 PARTS 2 AND 8 ASSEMBLED TO BASE WITH
 #8 F.H. WOOD SCREWS AND LOCATED TO
 SUIT CHILD

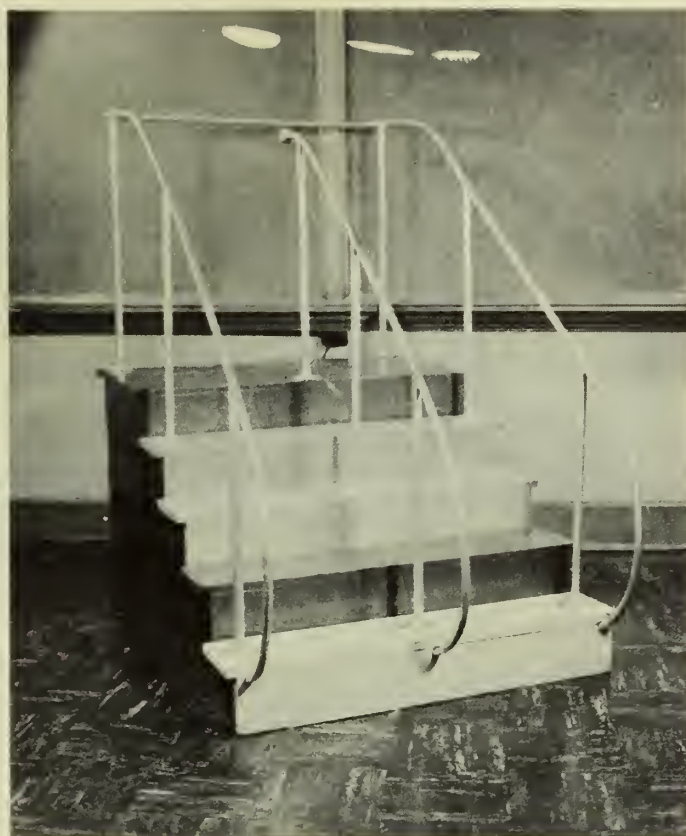


BILL OF MATERIALS

Part No.	Name of Part	No. Required	Material	Remarks
1	Base	1	Plywood	1/2" x 13" x 22"
2	Heel Supports	2	Steel	1/16" Thick
3	Support Bar	2	Flat wire Steel	1/8" x 1" x 17"
4	Adjusting Bar	2	Flat wire Steel	1/8" Thick, 1" Wide
5	Angle Support	2	Flat wire Steel	3/32" Thick, 3/4" Wide
6	Clip	2	Steel	1/16" Thick, 1" Wide
7	Cuffs	2	Leather	Padded with Strap and Buckle
8	Toe Strap and Buckle	2 sets		
9	Clamp Bolts and Nuts	2 sets	Steel	1/4" diameter

Children's Rehabilitation Institute, Cockeysville, Md.

STAIRS



Functional equipment—an essential in cerebral palsy training.

Cerebral Palsy Center, Iowa Society for Crippled Children and Adults, Inc., Des Moines, Iowa

STAIRS

Physical Therapy

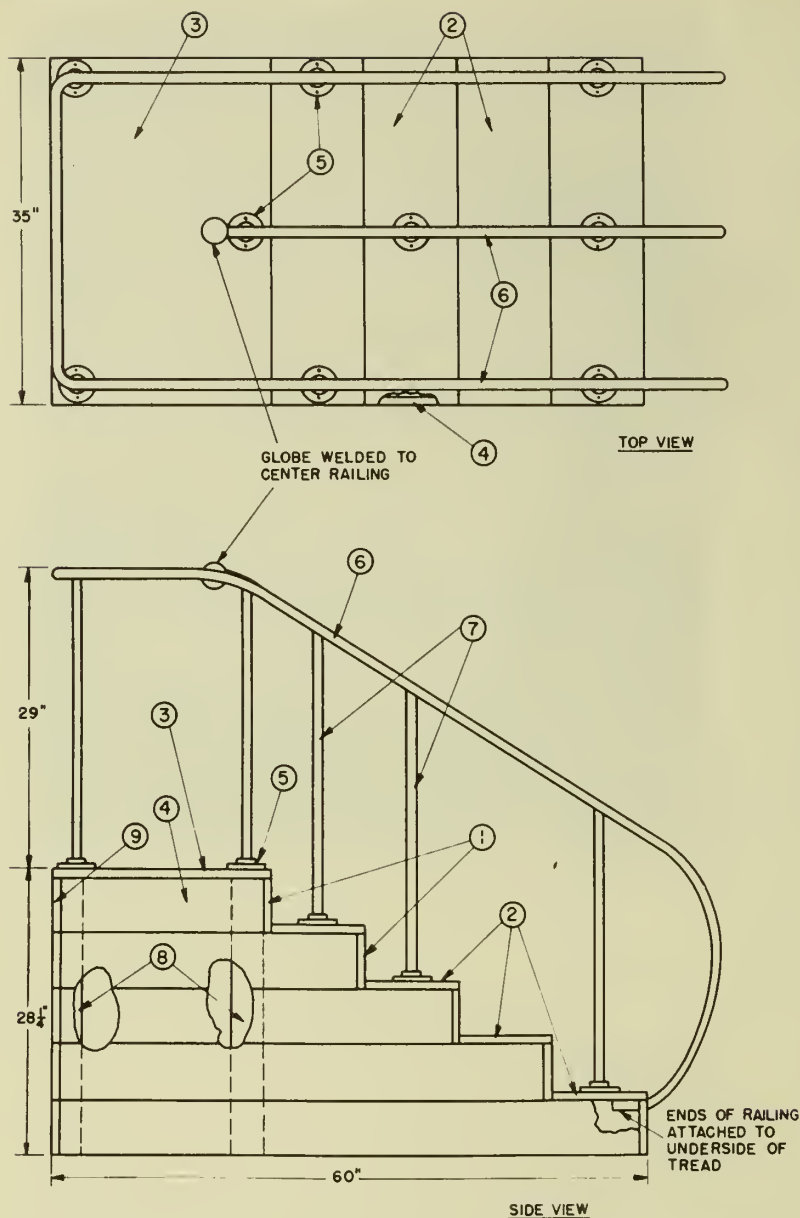
Equipment designed for training in daily activity skills is essential in all cerebral palsy treatment centers. Not only does its use give patients an opportunity to have new experiences under proper supervision, but it provides another method of exercise. While a child is lifting his foot to take a step, he is unconscious of exercising his hip flexor, anterior tibial, quadriceps, etc.

The pictured stairs are designed for use with young children. The platform at the top should be wide enough for the patient to turn and descend by the other side. The steps may be painted bright colors. A good idea for young chil-

dren is to paint each step two different colors, alternating them on each rise: blue on right of first step, blue on left of second step, etc. The child can then place his feet according to colors and eventually become conditioned to the coordinated movement.

Stairs at home and in public buildings become less awesome if the learning process of ascending and descending is done in a treatment center under proper guidance and instruction. Tricks of manipulating braces and crutches on stairs also can be taught by the therapist.

STAIRS



Remove all sharp edges and corners.

Use #10 F.H. wood screws and glue to assemble wood parts.

Use #10 F.H. wood screws to assemble flanges.

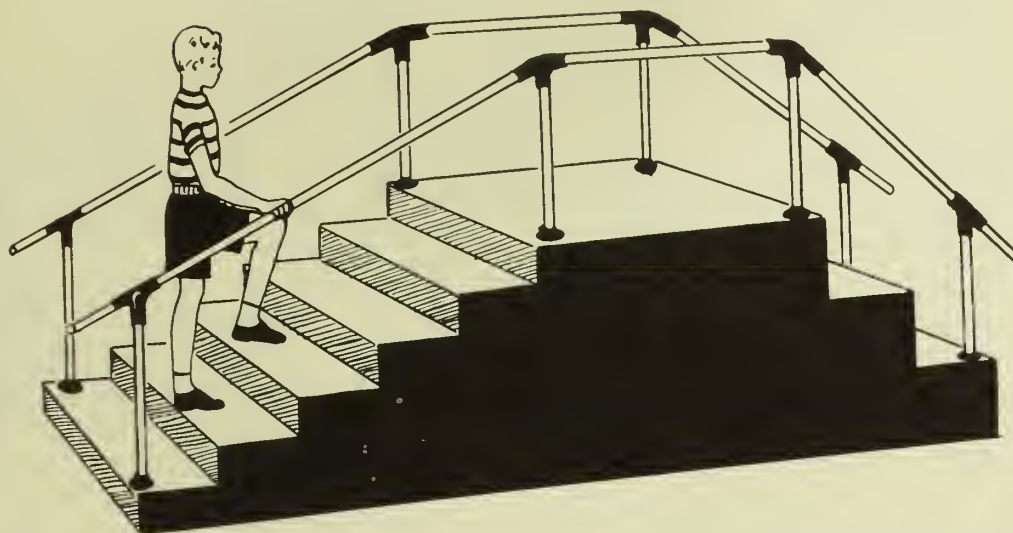
Railing supports are welded to railing.

BILL OF MATERIALS

Part No.	Name of Part	No. Required	Material	Remarks
1	Risers	5	Wood	$\frac{3}{4}$ " x $5\frac{1}{2}$ " x 35"
2	Treads	4	Wood	$\frac{3}{4}$ " x $9\frac{1}{2}$ " x 35"
3	Top Platform	1	Wood	$\frac{3}{4}$ " x 22" x 35"
4	Sides	10 pcs.	Wood	$\frac{3}{4}$ " Wide; $5\frac{1}{2}$ " Wide
5	Floor Flanges	9	Steel	For $\frac{3}{4}$ " Pipe
6	Railings		Steel	$\frac{3}{4}$ " Pipe
7	Railing Supports	9	Steel	$\frac{3}{4}$ " Pipe, 28" Long
8	Supports	4	Wood	2" x 3" x $27\frac{1}{2}$ "
9	Back	5	Wood	$\frac{3}{4}$ " x $5\frac{1}{2}$ " x 35"

Cerebral Palsy Center, Iowa Society for Crippled Children and Adults, Inc., Des Moines, Iowa

STAIRS, STRAIGHT



Different height risers provide opportunity for developing skill.

Pennsylvania Society for Crippled Children and Adults, Inc., Harrisburg, Pa.

STRAIGHT STAIRS

Physical Therapy

(Refer to *Stairs* for discussion of use.) If space in the treatment center is adequate, it is desirable to have stairs constructed so children can ascend on one side and descend on the other. Note that risers are four inches on one side and eight on the other.

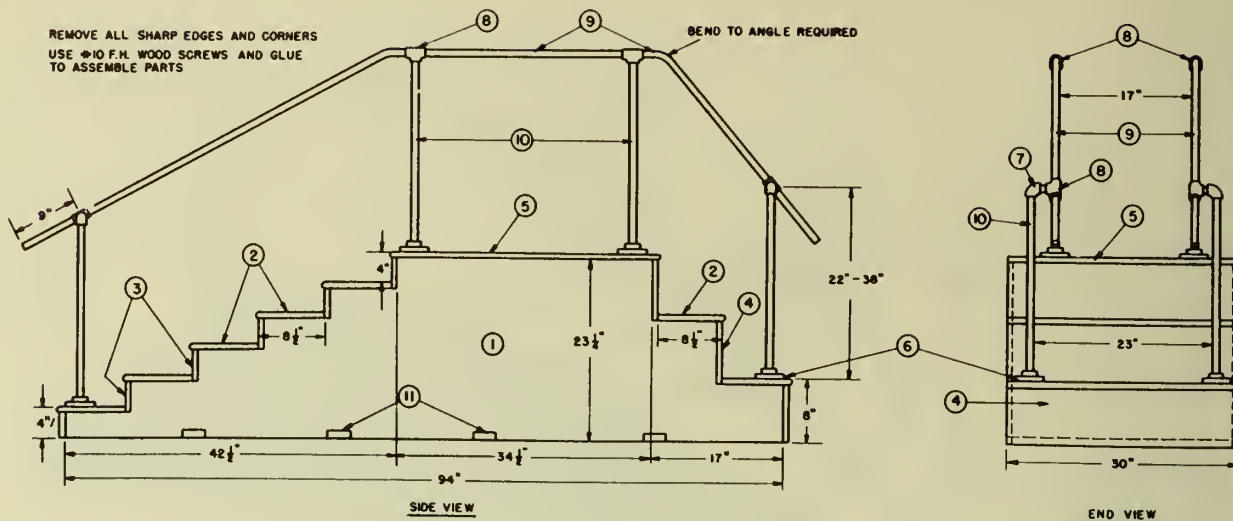
Stair climbing requires muscle control and

strength. It is well to start with a low riser until the pattern of stair climbing is mastered, then progress to risers of standard size.

Hand rails are stable so as to allow for considerable pressure from arms when first learning to clear the steps with the feet.

No. 95

STAIRS, STRAIGHT

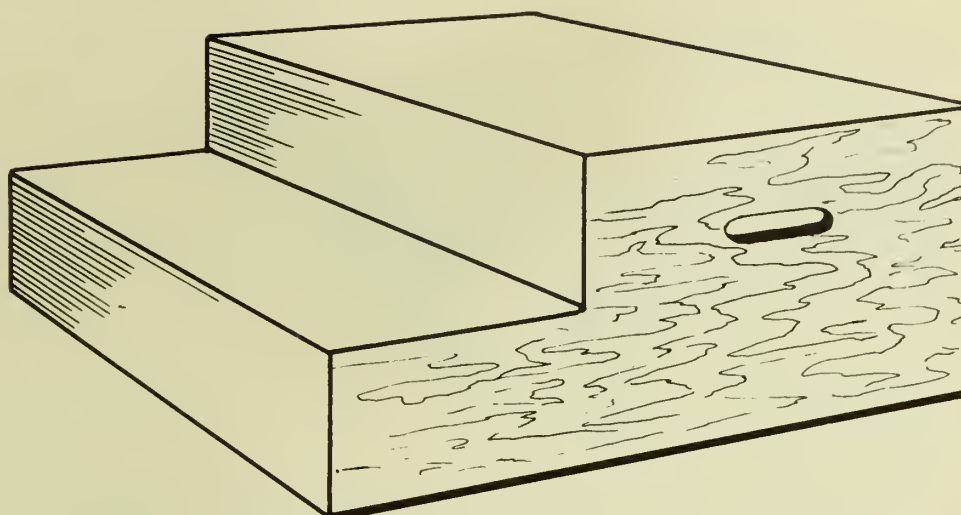


BILL OF MATERIALS

Part No.	Name of Part	No. Required	Material	Remarks
1	Sides	2	Plywood	$\frac{3}{4}$ " thick x $23\frac{1}{4}$ " x 94" Lg
2	Threads	7	Plywood	$\frac{3}{4}$ " x 9" x 30"
3	Risers	6	Plywood	5— $\frac{3}{4}$ " x 4" x 30"
				1— $\frac{3}{4}$ " x $3\frac{1}{4}$ " x 30"
4	Large Risers	3	Plywood	2— $\frac{3}{4}$ " x 8" x 30"
				1— $\frac{3}{4}$ " x $7\frac{1}{4}$ " x 30"
5	Top	1	Plywood	$\frac{3}{4}$ " x 30" x 37"
6	Floor Flanges	8	Steel	For $\frac{3}{4}$ " Pipe
7	Elbows	4	Steel	For $\frac{3}{4}$ " Pipe
8	Tees	8	Steel	For $\frac{3}{4}$ " Pipe
9	Railing		Steel	$\frac{3}{4}$ " Pipe
10	Railing Supports	8	Steel	$\frac{3}{4}$ " Pipe
			22" — 38" long	
11	Supports	4	Wood	1" x 3" x 30"

Pennsylvania Society for Crippled Children and Adults, Inc., Harrisburg, Pa.

STEPS



Steps contribute to independence.

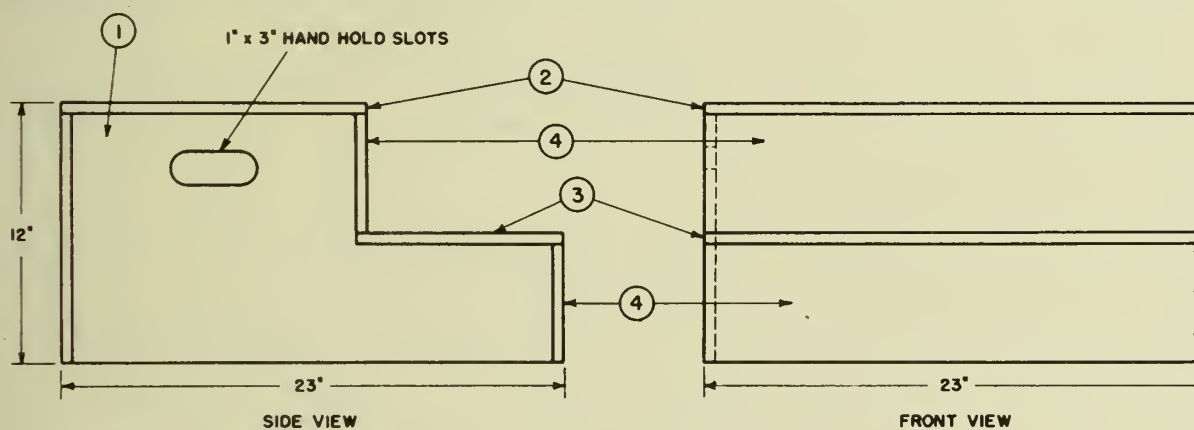
Fresno City Unified School District, Fresno, Calif.

STEPS

Physical Therapy

Many patients can, with or without assistance, climb on a treatment table if low steps are placed conveniently at the side or foot of the table. The steps must be well constructed and properly

anchored. They not only assist in training the patient to be more independent, but save the therapist unnecessary lifting of heavy patients.



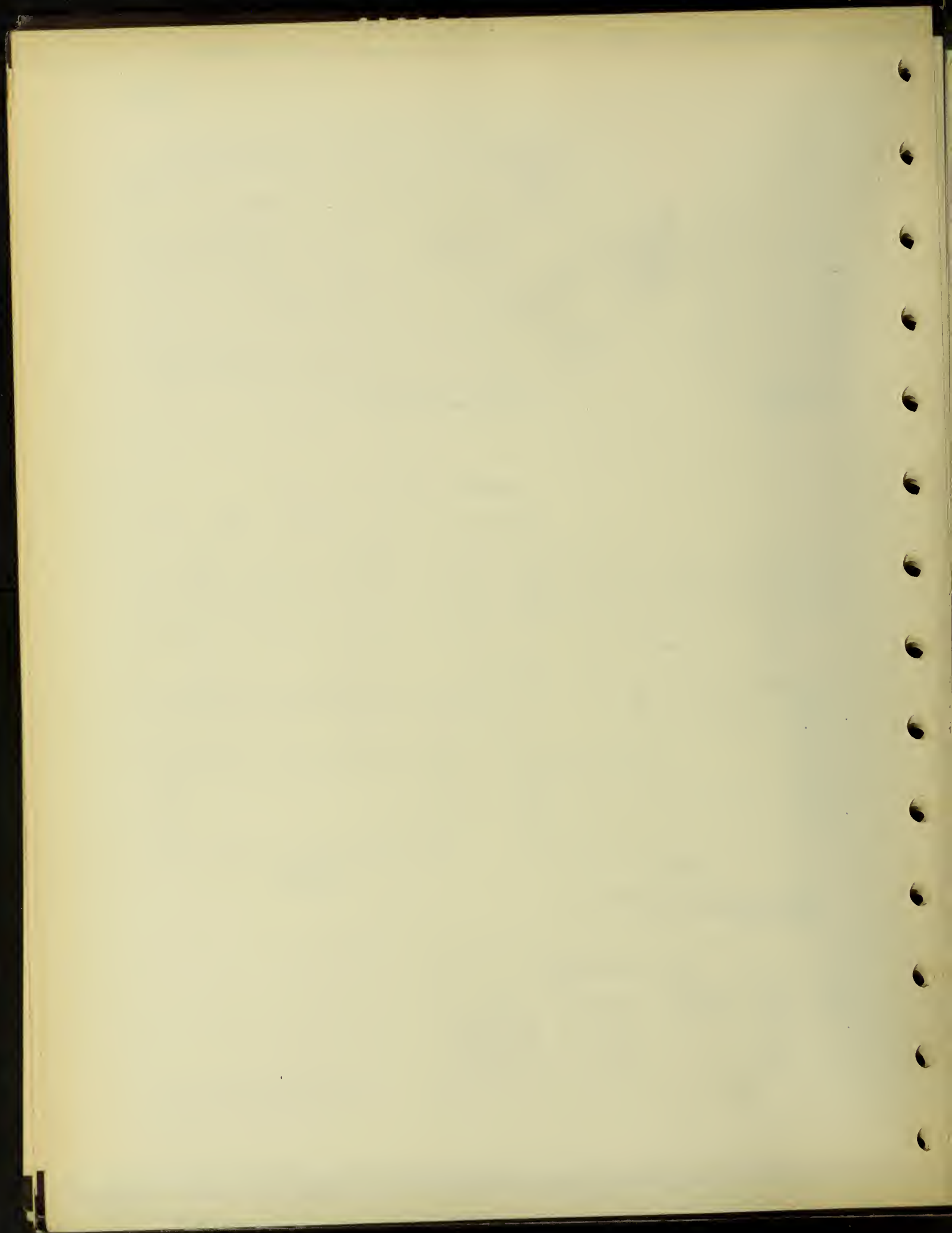
ROUND OFF ALL SHARP EDGES AND CORNERS
ASSEMBLE PARTS WITH #8 F.H. WOOD
SCREWS AND GLUE

BILL OF MATERIALS

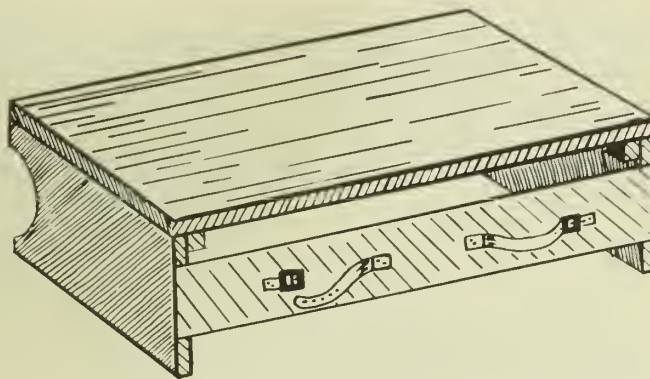
Part No.	Name of Part	No. Required	Material	Remarks
1	Sides	2	Wood	$\frac{3}{4}$ " x $11\frac{1}{2}$ " x 22"
2	Top	1	Wood	$\frac{1}{2}$ " x 14" x 23"
3	Step	1	Wood	$\frac{1}{2}$ " x $9\frac{1}{2}$ " x 23"
4	Risers	2	Wood	$\frac{1}{2}$ " x $5\frac{1}{2}$ " x 23"

Fresno City Unified School District, Fresno, Calif.

No. 96



STOOL WITH ANKLE CUFFS



Ankle cuffs for stability.

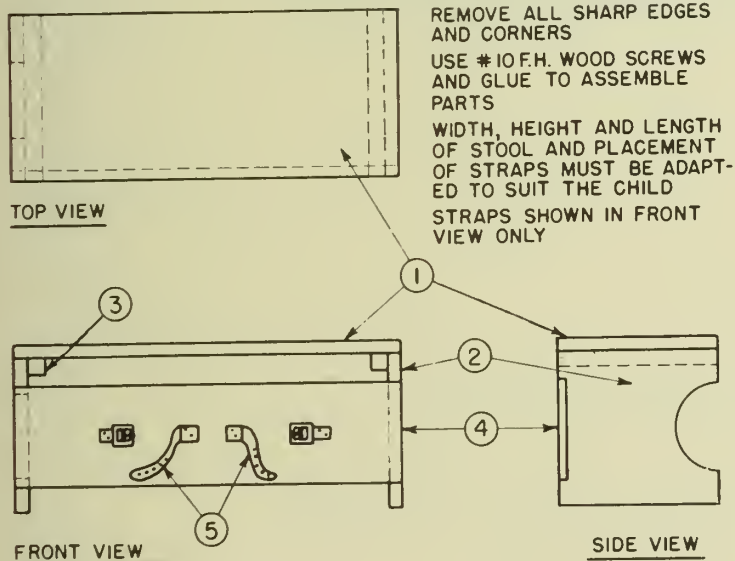
Westchester Cerebral Palsy Association, Inc., Bedford, N. Y.

STOOL WITH ANKLE CUFFS

Physical Therapy—Occupational Therapy

A low stool often is used for teaching sitting balance. Athetoid movements of the lower extremities may interfere with a child's concentration on trunk and head balance. A spastic child feels more secure if his legs are anchored.

Ankle cuffs attached to the stool (pictured above) are an aid for stabilizing the lower extremities. The height of the stool must be adapted to suit the individual child.

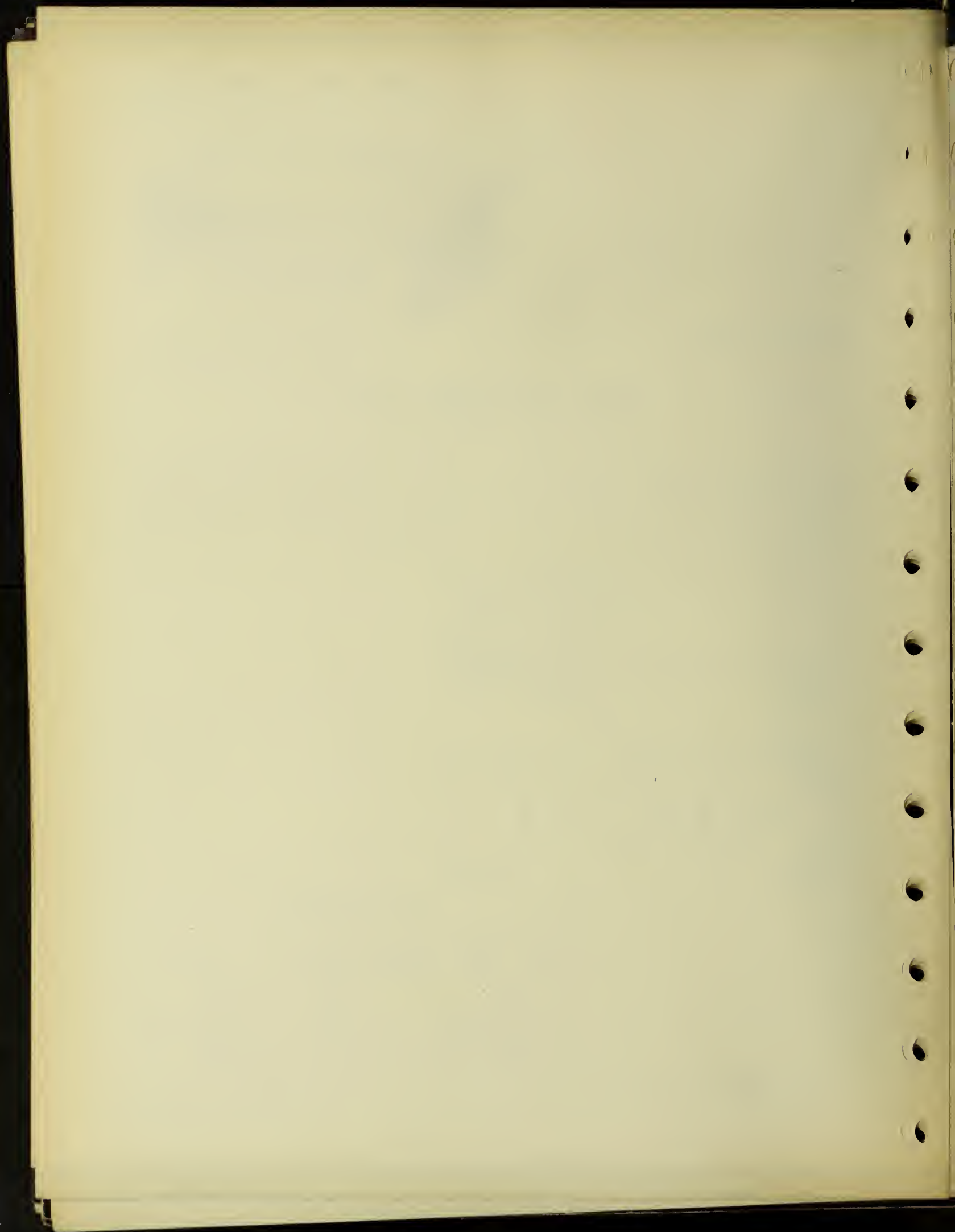


BILL OF MATERIALS

Part No.	Name of Part	No. Required	Material	Remarks
1	Top	1	Wood	$\frac{3}{4}$ " Thick
2	Sides	2	Wood	$\frac{3}{4}$ " Thick
3	Side Supports	2	Wood	1" Thick; 1" Wide
4	Ankle Board	1	Wood	$\frac{1}{2}$ " Thick
5	Straps and Buckles	2 sets		Adjustable

Westchester Cerebral Palsy Association, Inc., Bedford, N. Y.

No. 97



STOOLS AND STEPS



Steps and stools have many uses.

Potomac Engineering Corporation, Chicago, Ill.

STOOLS AND STEPS

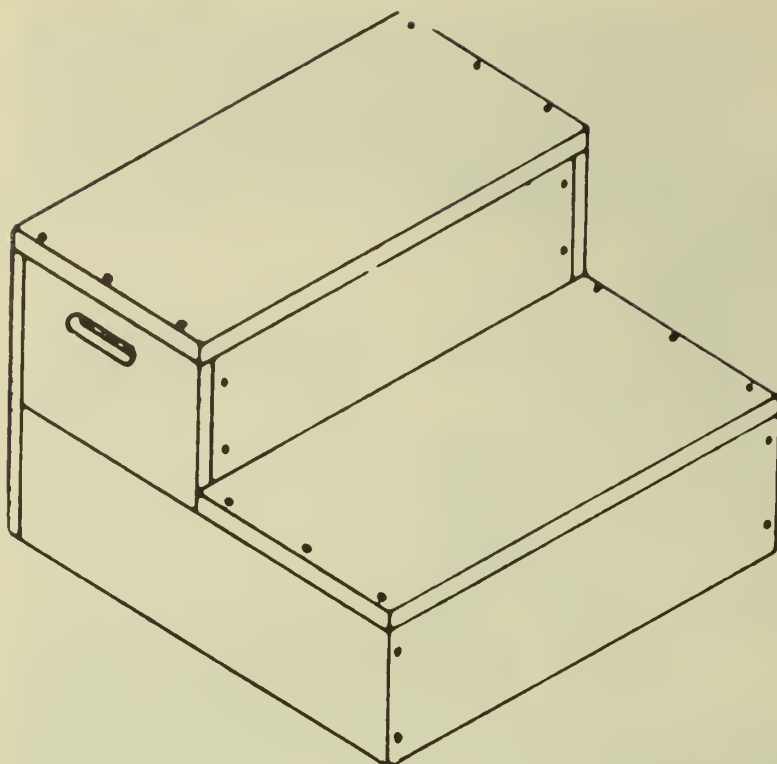
Special Education—Physical Therapy—Occupational Therapy

Steps and stools have a variety of uses: (1) stepping and climbing to different levels; (2) in front of a high sink or wash basin; (3) in group play activities as seats for those learning sitting balance without side support.

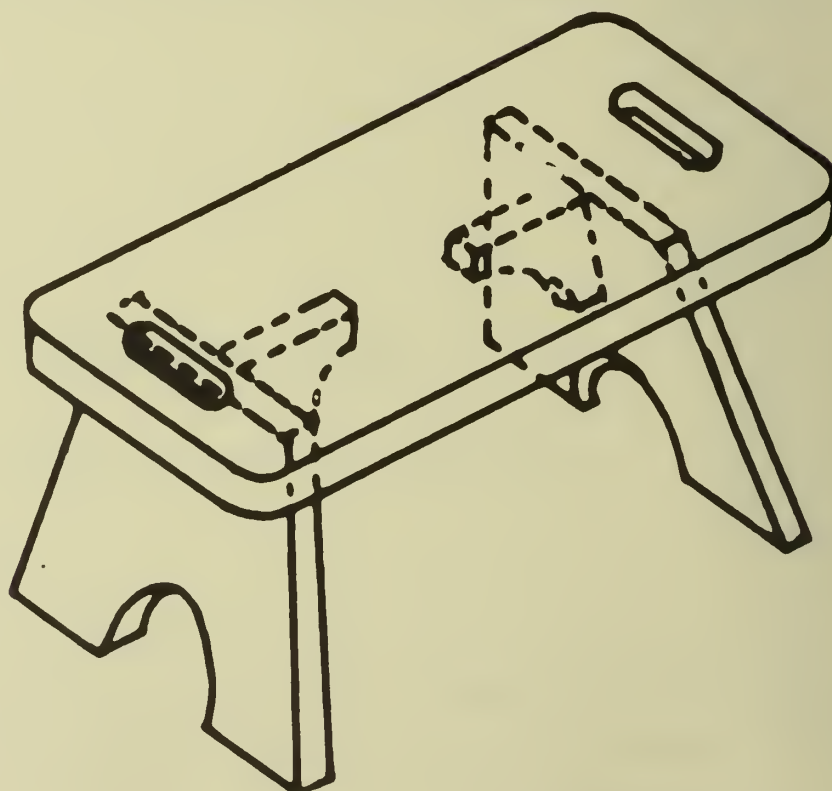
They may be used by adults to bring them down to the child's plane of activity. For variations in games, exercise and free play, steps and stools may be used in pre-schools, both indoors and outdoors.

No. 98

STOOLS AND STEPS



ONE SIZE: 18" wide by 18" deep by 12" high.
FINISH: Natural.



ONE SIZE: 7" wide by 16" long by 7" high.
FINISH: Natural.

Potomac Engineering Corporation, Chicago, Ill.

TABLE, GROUP STANDING



An opportunity for social experience.

Schaal for Cerebral Palsied Children, Northern California, Redwood City, Calif.

GROUP STANDING TABLE

Physical Therapy—Occupational Therapy—Special Education

One of the most important lessons for the cerebral palsied child is learning to get along with other children. Until he learns to walk, some way must be provided for him to be near other children so they may share toys and ideas. The group standing table offers one solution to this problem.

In addition to providing a social experience, a standing table also is a means of developing standing balance and neck and back strength.

The table illustrated may be useful in the nursery school, treatment center or classroom. It has a plain colored top against which toys show up easily. A wide rim around the edge prevents playthings from rolling off or being knocked off. The standing sections are well spaced so that

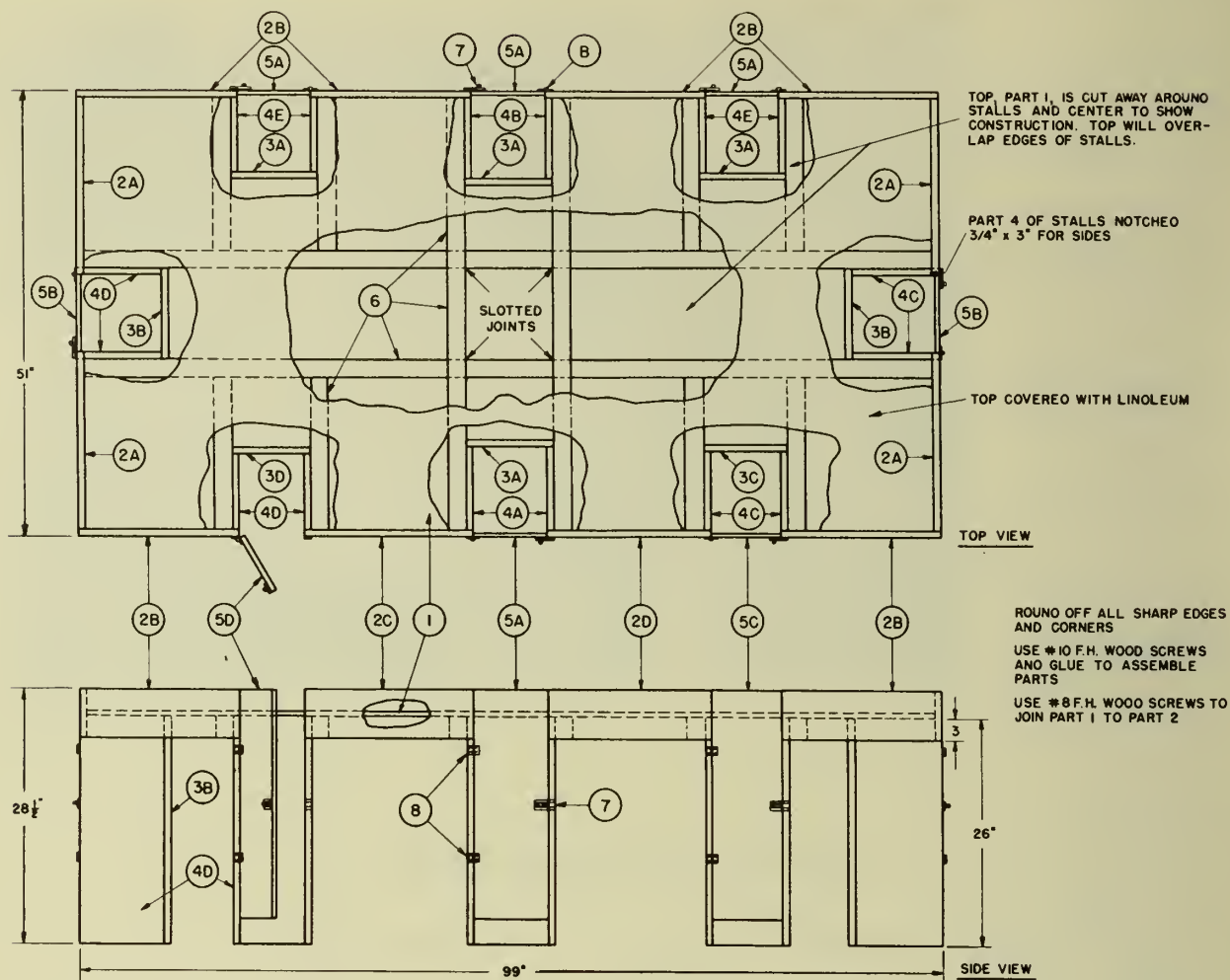
each child has plenty of play surface.

Each section is solidly built with a door which is securely bolted to hold the child. The doors extend only part way to the floor so it is possible at all times to check on the manner in which the child is standing. Wooden boxes which fit the sections may be inserted on floor level to raise the smaller children to the correct height.

This table may be used for children with and without braces.

In building a group standing table, it is also possible to put the standing sections in the corners, instead of along the sides and at the ends, thus making a hexagonal table, and eliminating the right-angle corners.

TABLE, GROUP STANDING



BILL OF MATERIALS					BILL OF MATERIALS (Continued)				
Part No.	Name of Part	No. Req.	Material	Remarks	Part No.	Name of Part	No. Req.	Material	Remarks
1	Top	1	Plywood	$\frac{1}{2}$ " x $49\frac{1}{2}$ " x $97\frac{1}{2}$ "	4E	Stall Sides E	4	Wood	$\frac{3}{4}$ " x $9\frac{1}{4}$ " x $26\frac{1}{2}$ "
2A	Sides A	4	Wood	$\frac{3}{4}$ " x $5\frac{1}{2}$ " x $20\frac{1}{4}$ "	5A	Doors A	4	Plywood	$\frac{1}{2}$ " x $8\frac{1}{2}$ " x 26"
2B	Sides B	6	Wood	$\frac{3}{4}$ " x $5\frac{1}{2}$ " x $18\frac{3}{8}$ "	5B	Doors B	2	Plywood	$\frac{1}{2}$ " x 9" x 26"
2C	Side C	1	Wood	$\frac{3}{4}$ " x $5\frac{1}{2}$ " x $19\frac{3}{8}$ "	5C	Door C	1	Plywood	$\frac{1}{2}$ " x 8" x 26"
2D	Side D	1	Wood	$\frac{3}{4}$ " x $5\frac{1}{2}$ " x $18\frac{7}{8}$ "	5D	Door D	1	Plywood	$\frac{1}{2}$ " x $7\frac{1}{2}$ " x 26"
3A	Stall Fronts A	4	Wood	$\frac{3}{4}$ " x 10" x $26\frac{1}{2}$ "	6	Table Top Bracing		Wood	2" thick, 3" wide Approx. 36' 2" Required
3B	Stall Fronts B	2	Wood	$\frac{3}{4}$ " x $10\frac{1}{2}$ " x $26\frac{1}{2}$ "	7	Lock	8	Steel	Barrel Bolts
3C	Stall Front C	1	Wood	$\frac{3}{4}$ " x $9\frac{1}{2}$ " x $26\frac{1}{2}$ "	8	Hinges	16	Steel	
3D	Stall Front D	1	Wood	$\frac{3}{4}$ " x 9" x $26\frac{1}{2}$ "	School for Cerebral Palsied Children, Northern California, Redwood City, Calif.				
4A	Stall Sides A	2	Wood	$\frac{3}{4}$ " x $10\frac{1}{4}$ " x $26\frac{1}{2}$ "					
4B	Stall Sides B	2	Wood	$\frac{3}{4}$ " x 10" x $26\frac{1}{2}$ "					
4C	Stall Sides C	4	Wood	$\frac{3}{4}$ " x $9\frac{3}{4}$ " x $26\frac{1}{2}$ "					
4D	Stall Sides D	4	Wood	$\frac{3}{4}$ " x $9\frac{1}{2}$ " x $26\frac{1}{2}$ "					

TABLE, GROUP STANDING, ADJUSTABLE



Helps cerebral palsied children play together.

Bayside School for Exceptional Children, Tampa, Fla.

ADJUSTABLE GROUP STANDING TABLE

Special Education—Occupational Therapy—Physical Therapy

This group standing table has several interesting features. The legs are adjustable, so that the whole unit may be raised or lowered, and standing boards of various dimensions are provided to allow individual adjustments for children of different sizes. Caution should be used to stabilize the boards for children lacking control of extremities.

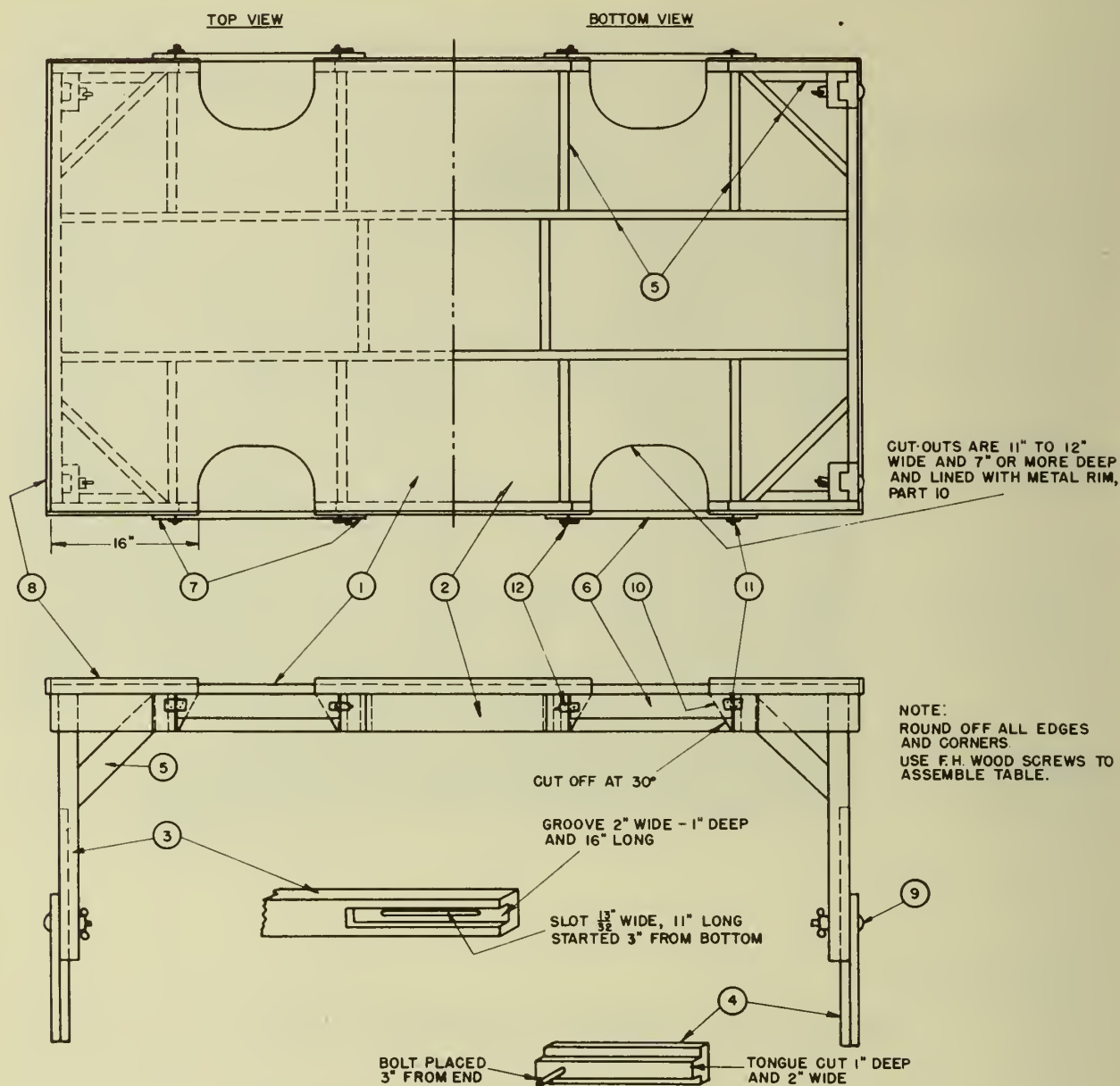
The cut-outs are round and have hinged bar backs locked with bolts. There is a metal rim reinforcing the cut-outs.

A one and one-fourth inch molding around the edge of the table helps to prevent objects from rolling off or being knocked off the table.

For further discussion refer to *Standing Tables*.

No. 100

TABLE, GROUP STANDING, ADJUSTABLE



BILL OF MATERIALS

Part No.	Name of Part	No. Required	Material	Remarks
1	Table Top	1	Plywood	$\frac{3}{4}$ " x 48" x 85"
2	Sides	8 pcs.	Wood	1" x 4"
3	Stationary Legs	4	Wood	2" x 4" x 28"
4	Adjustable Legs	4	Wood	2" x 4" x 16"
5	Internal Bracing	18 pcs.	Wood	1" x 4"
6	Locking Bars	4	Wood	$\frac{1}{2}$ " x $2\frac{1}{2}$ " x 17"
7	Supports	8	Wood	$\frac{1}{2}$ " x $2\frac{1}{2}$ " x 4"
8	Molding	8 pcs.	Wood	$\frac{1}{4}$ " x $1\frac{1}{4}$ " Molding
9	Wing Nuts & Bolts	4	Steel	$\frac{3}{8}$ " — $3\frac{1}{2}$ " Long
10	Cut-out Rims	4	Steel	$\frac{1}{32}$ " Thick; $\frac{3}{4}$ " Wide
11	Hinges	4	Steel	2" Wide
12	Locks	4	Steel	Sliding Barrel Bolts

Bayside School for Exceptional Children, Tampa, Fla.

TABLE, GROUP STANDING, WITH FOOTBOARDS AND BACK SUPPORTS



Group standing tables are important in group occupational therapy.



Children's Rehabilitation Institute, Cockeysville, Md.

GROUP STANDING TABLE WITH FOOTBOARDS AND BACK SUPPORTS

Physical Therapy—Occupational Therapy

A group standing table has many uses in the treatment center. It provides experiences derived from being in an upright position and increases standing tolerance. It also provides opportunity for activities with other children, thus contributing to a sense of fair play and other desirable personality factors which tend to be underdeveloped when children play and work alone.

The child should fit comfortably in the cut-out, held securely by the bar across the back. The height of the table top can be determined by measuring from the floor to an area on the trunk about two inches above the bend of the elbow.

In cases where the prescribed therapy is treatment for balance control, the child may be started in the standing table with the table top just below

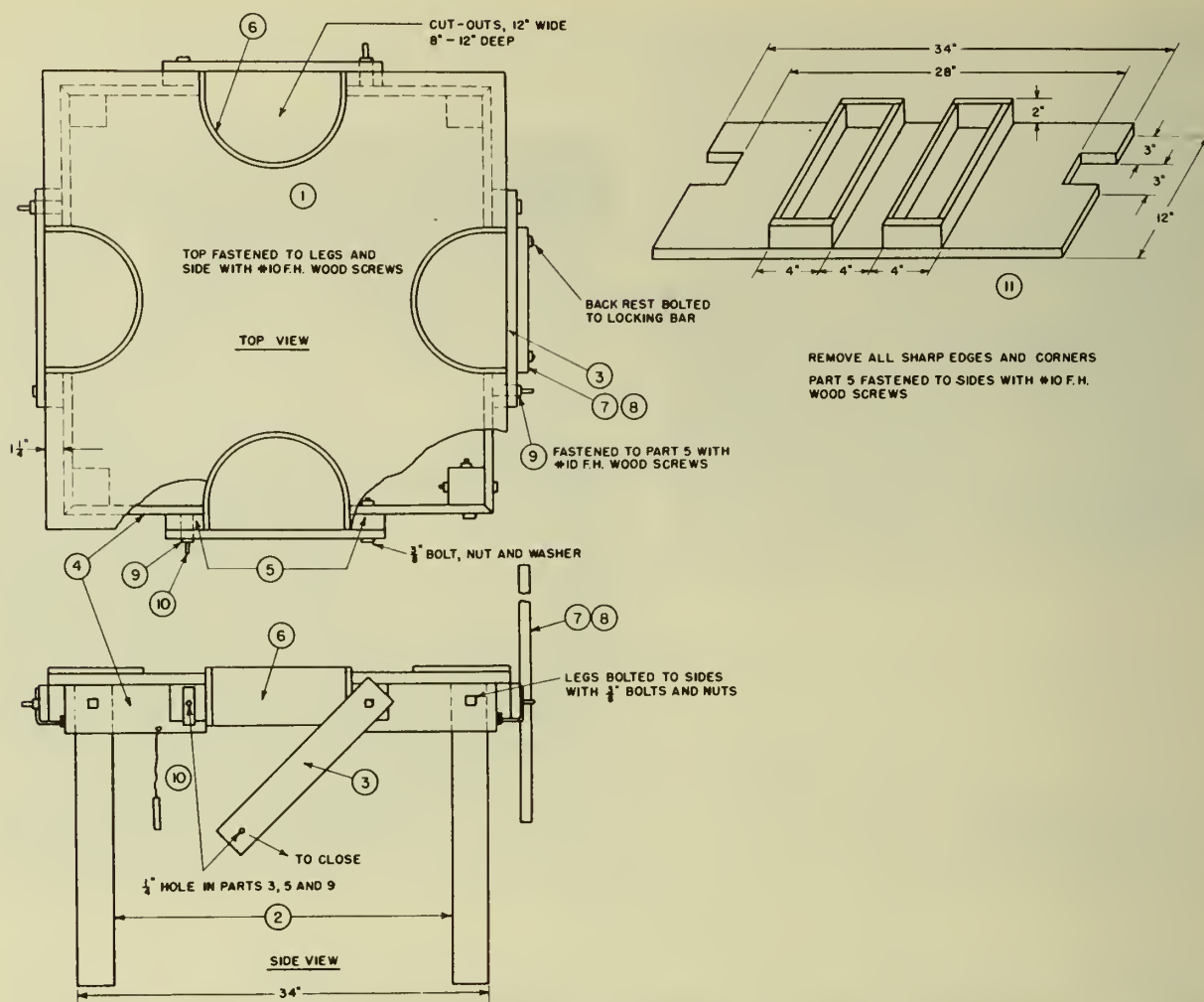
the axillae, so that he receives maximum support. As his point of balance loss becomes lower, he may be raised.

The table illustrated at left shows adjustment for height of the individual children provided by the footboards. The boxed-in footboards hold the child's feet in correct position, and help the child maintain a good standing position.

The back supports (illustrated at right) also are aids in maintaining a good position of head, neck and back.

Children in standing tables should be under supervision at all times to ensure proper weight distribution. They should not be allowed to get off balance and to lean or hang suspended by their arms in the cut-outs.

TABLE, GROUP STANDING, WITH FOOTBOARDS AND BACK SUPPORTS



BILL OF MATERIALS

Part No.	Name of Part	No. Required	Material	Remarks
1	Table Top	1	Wood	1" x 38" x 38"
2	Legs	4	Wood	3" x 3" x 25"
3	Locking Bars	4	Wood	3/4" x 3" x 18"
4	Sides	8	Wood	3/4" x 4" x 11 1/2"
5	Locking Bar Blocks	8	Wood	1 1/4" x 3" x 3"
6	Cut-out Rim	4	Wood	4" Wide; 1/4" Thick
7	Upper Back Board	1	Wood	3/4" x 12" x 16"
8	Full Back Board	1	Wood	3/4" x 12" x 26"
9	Latches	4	Steel	1/8" Thick; 1" Wide
10	Pins	4	Steel	1/4" Diameter
11	Footboards	4	Wood	See Detail

Children's Rehabilitation Institute, Cockeysville, Md.

TABLE, INDIVIDUAL ADJUSTABLE CUT-OUT



Group work is an important socializing factor.

Cerebral Palsy Center, Iowa Society for Crippled Children and Adults, Inc., Des Moines, Iowa

INDIVIDUAL ADJUSTABLE CUT-OUT TABLE

Special Education—Occupational Therapy

The traditional school desk usually will not meet the needs of the individual cerebral palsied child. It is difficult and sometimes impossible in many cases for a child to slide in and out of a regular school desk.

For reading, the child should be able to see the printed page and still maintain good upright posture. (Refer to *Small Adjustable Bookrack*.)

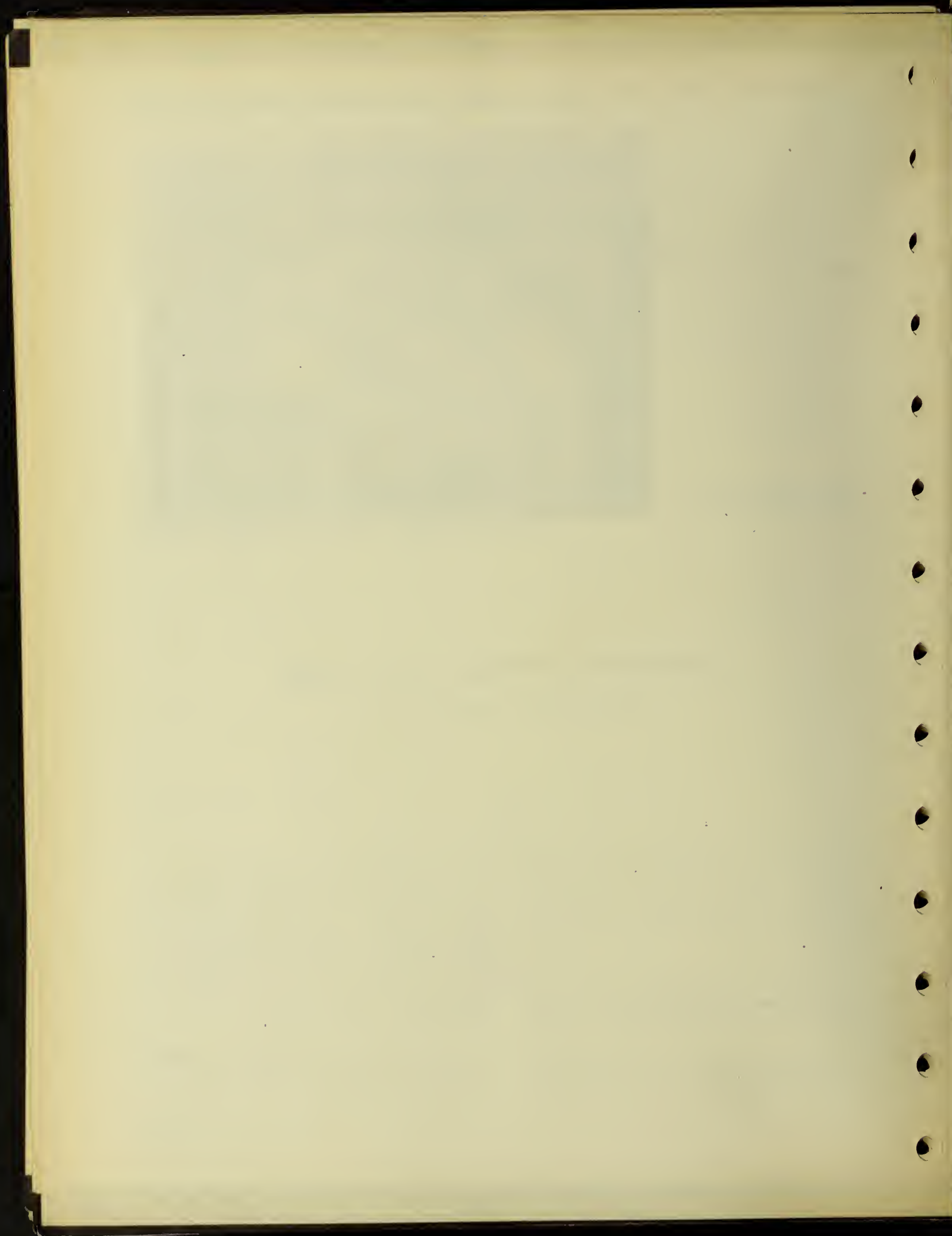
Adjustable cut-out tables in the classroom help to overcome some of the problems mentioned and

they also are adaptable for group use.

The picture demonstrates how it is possible to arrange these tables so they form a large group table where children may carry on school activities together. The classroom program should be centered around group activity the major part of the day, as children learn from one another and need the social experience.

For measurements, directions and materials needed for constructing the table, refer to *Adjustable Cut-out Tables*.

No. 102



TABLE, INDIVIDUAL, WITH CUT-OUT INSERTS



Children's Rehabilitation Institute, Cockeysville, Md.

Provides a quick means for table adjustment.



Cerebral Palsy Treatment Center, Franklin County Society for Crippled Children, Columbus, Ohio

INDIVIDUAL TABLE WITH CUT-OUT INSERTS

Occupational Therapy—Special Education

This table is useful in any clinic where its adjustable features serve many purposes and many children. It may be used for play, school work and feeding practice.

The legs are adjustable as to height, thus permitting the table top to be slanted for improved vision or hand use.

The top has a central section grooved on the sides so that separate inserts may be slid in. These inserts are made to fit children of varying sizes or to convert the table into a regular, rectangular-top table.

The chair used with this type table must allow the child to sit so that the cut-out fits closely around his waist. In the item illustrated at left, the corners of the cut-out are cut away to allow the sides of the chair to fit inside the cut-out. In the item illustrated at right, the straight-back chair fits flush against the table edge. In both, the child fills up the entire cut-out and his forearms can rest on the table. The table should be set just high enough to reach the child's elbow when his shoulders are relaxed and his elbows flexed to 90 degrees. The diagram on the following page is for the table illustrated at left.

TABLE, INDIVIDUAL CUT-OUT, WITH METAL FRAME



Wood and metal cut-out table.

Sigma Gamma Hospital School, Detroit Orthopaedic Clinic, Mt. Clemens, Mich.

INDIVIDUAL CUT-OUT TABLE WITH METAL FRAME

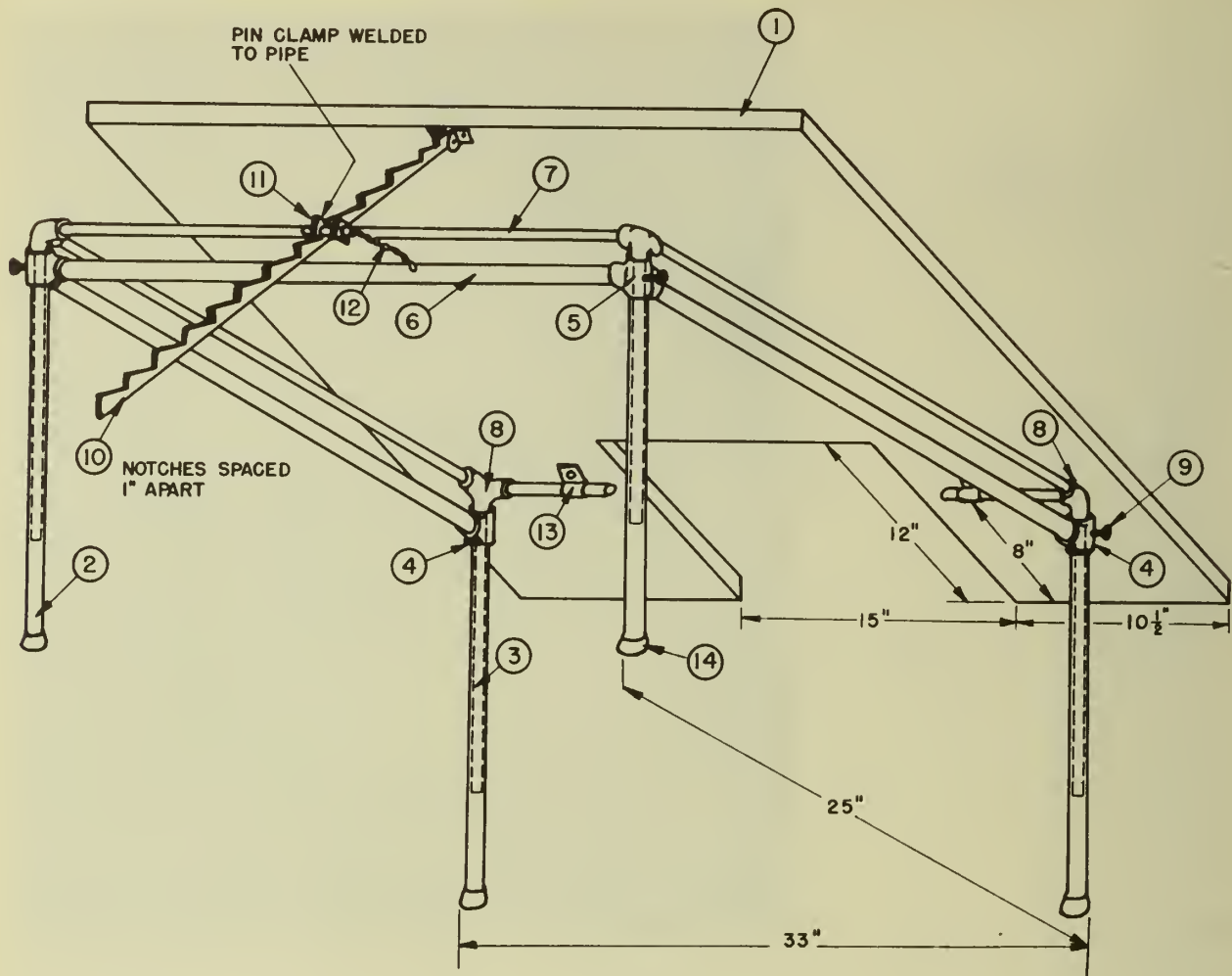
Occupational Therapy

This cut-out table with adjustable legs is made with a wooden or composition top and a metal frame. The cut-out is measured to fit the child's waist snugly, and the depth of the work surface allows good area for work or play. Provision is

made for setting the table top flat or at different angles, thereby allowing better visibility of objects for manipulation or increased facility in the use of the hands. (For discussion of chairs used with cut-out tables refer to *Cut-out Tables*.)

No. 105

TABLE, INDIVIDUAL CUT-OUT, WITH METAL FRAME



BILL OF MATERIALS

Part No.	Name of Part	No. Required	Material	Remarks
1	Top	1	Wood	1" x 36" x 36"
2	Legs	4	Iron	1" Pipe
3	Adjusting Legs	4	Iron	3/4" Pipe
4	Tees	2	Iron	For 1" Pipe
5	Side Outlet			
	Tees	2	Iron	For 1" Pipe
6	Lower Frame	1	Iron	1" Pipe
7	Upper Frame	1	Iron	1/2" Pipe
8	90 Deg. Side Outlet Elbows	4	Iron	For 3/4" Pipe
9	3/8" Thumb Screws	4	Steel	
10	Notched Rod	1	Steel	20" Long
11	Pin Clamp	1	Steel	
12	Pin and Chain	1	Steel	
13	Top Clamps	2	Steel	
14	Floor Protectors	4	Rubber	1" Crutch Tip

Sigmo Gomme Hospital School, Detroit Orthopaedic Clinic, Mt. Clemens, Mich.

TABLE, INDIVIDUAL STANDING



The cerebral palsied child should assume an upright position as soon as possible.

El Portal School, Milbrae, Calif. and Crippled Children's Society of San Mateo County, Burlingame, Calif.

INDIVIDUAL STANDING TABLE

Physical Therapy—Speech—Occupational Therapy—Special Education

This type of table may be used for the cerebral palsied child who is ready for weight bearing but who still needs assistance with standing balance. It can provide valuable experience in standing for progressively lengthening periods of time, and is one means of preventing the hip and knee contractures which may develop from too prolonged sitting.

The use of the standing table has dividends for speech: the strengthening of the muscles of the neck, shoulder girdles and the upper back; the improvement of balance. In addition, the gravitational forces of the upright position itself help in establishing proper breathing pattern for speech. For speech and language maturation it is important that the child not be propped up "in space" without interesting and appropriate materials to challenge and occupy his attention. When placed in a standing device of any sort, a

child always should have suitable activities and materials available.

The table illustrated has adjustable legs. Care should be taken to determine the correct height of the table for each child and for each activity. The table top should be high enough for comfortable, relaxed working position of the arms. To determine correct height of table top, measure from floor to an area on the trunk, one or two inches above the point of the child's elbow bent at a right angle.

Added support is given by means of adjustable clamps which fit closely around the child's waist inside the cut-out.

Tables of this type are most suitable for children who are adequately braced, or who have developed enough ability to do weight bearing with only slight support. The child must be under supervision at all times to ensure proper distribution of weight on both feet.

TABLE, SPEECH



Relaxation is important in speech therapy.

Children's Speech Clinic, University of Denver, Colo.

SPEECH TABLE

Speech

Relaxation by some children can be attained more easily and quickly when they are in a prone position. The child is brought to the eye level of the adult, thus enabling him to cooperate with the therapist. The visual, auditory and kines-
thetic methods may be employed.

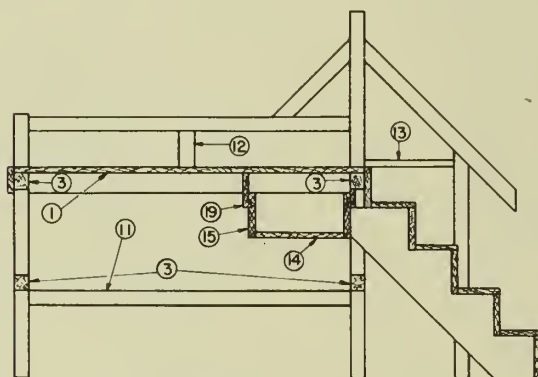
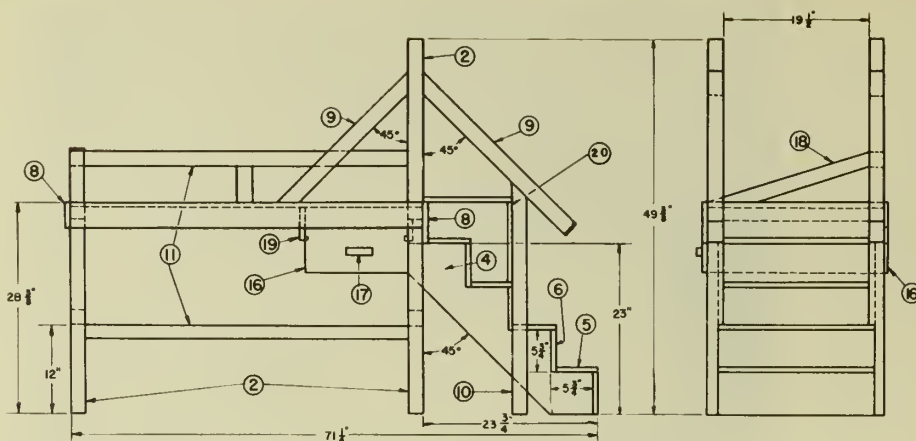
The table has a number of practical features. The low built-up railing on one side and one end prevents the child from rolling off, thus adding

to his physical security. The steps and rails leading up at one end of the table make it unnecessary to lift the ambulatory child or the child who is just learning to climb up the steps. If the child cannot climb, he is lifted onto the table. A drawer attached under the table on the right side provides a convenient place for speech materials. A soft pad and pillow on the table add to the comfort and relaxation of the child.

No. 107

CEREBRAL PALSY EQUIPMENT

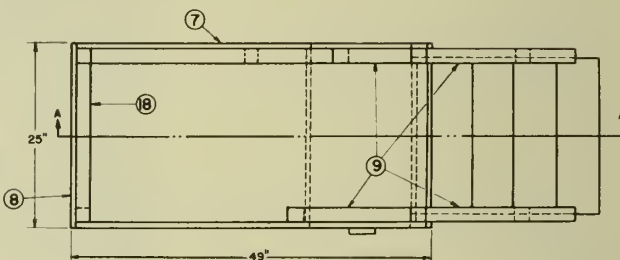
TABLE, SPEECH



SECTION A-A

NOTES:
LEGS AND RAILINGS TO BE ASSEMBLED
USING 5/16 LAG SCREWS. REMAINDER
TO BE ASSEMBLED WITH #8 FLAT HEAD
WOOD SCREWS.

NOTCH IN PART 15 TO BE 3/4" WIDE -
1/4" DEEP - 1" FROM TOP (SEE
SECTION A-A). PART 19 TO CONFORM
WITH PART 15.



BILL OF MATERIALS

Part No.	Name of Part	No. Required	Material	Remarks
1	Table Top	1	Wood	3/4" x 23 1/2" x 47 1/2"
2	Leg	4	Wood	{ 1-2" x 2" x 28 3/4" 1-2" x 2" x 35 5/8" 2-2" x 2" x 49 3/8" 2" x 2" x 19 1/2"
3	Leg Spacers	4	Wood	3/4" x 8 1/4" x 28"
4	Stair Sides	2	Wood	3/4" x 5 3/4" x 21"
5	Stairs	4	Wood	3/4" x 5 3/4" x 21"
6	Risers	4	Wood	3/4" x 3 3/4" x 47 1/2"
7	Sides	2	Wood	{ 1-3/4" x 3 3/4" x 25" 1-3/4" x 5 3/4" x 25"
8	Ends	2	Wood	{ 2-2" x 2" x 31" 1-2" x 2" x 15" 1-2" x 2" x 24 1/2"
9	Railings	4	Wood	2" x 2" x 32"
10	Railing Supports	2	Wood	2" x 2" x 43 1/2"
11	Leg Spacers	2	Wood	2" x 2" x 5"
12	Vertical Support	1	Wood	3/4" x 2" x 12 1/4"
13	Horizontal Braces	2	Wood	3/4" x 12" x 23 1/2"
14	Drawer Bottom	1	Wood	3/4" x 6" x 23 1/2"
15	Drawer Sides	2	Wood	3/4" x 6" x 13 1/2"
16	Drawer Ends	2	Wood	2" x 2" x 23"
17	Drawer Handle	1	Wood	{ 1-1" x 4 3/4" x 23 1/2" 1-1" x 2 1/2" x 19 1/2"
18	Diagonal Brace	1	Wood	3/4" x 2" x 11 1/2"
19	Drawer Slider	2	Wood	
20	Vertical Braces	2	Wood	

Children's Speech Clinic, University of Denver, Colo.

TABLE, STANDARD

For group
play, work
and eating
activities.



Cottage School, Oakland, Calif.*

STANDARD TABLE

General Equipment

A sturdy, large table which seats six to eight children is essential for play and work activities in a classroom. It also may serve as a lunch table. Children who require a different table height may be seated at individual cut-out tables which are adjustable in height. These may be placed at each corner of the group table so all children can participate in the activities.

The top of the table (shown in photograph) is covered with heavy, non-gloss battleship linoleum which is light tan in color and seems to give the least amount of glare. (Patterned or figured linoleum is distracting and hard on the eyes.) The linoleum is fastened firmly in place with linoleum paste. Around the table edge is nailed a one-half inch rounded picture molding

which prevents play and work materials from slipping off the table. Linoleum stands hard usage and is sanitary. The use of liquid wax once a week will protect the surface.

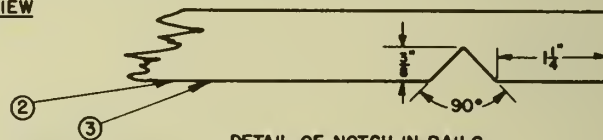
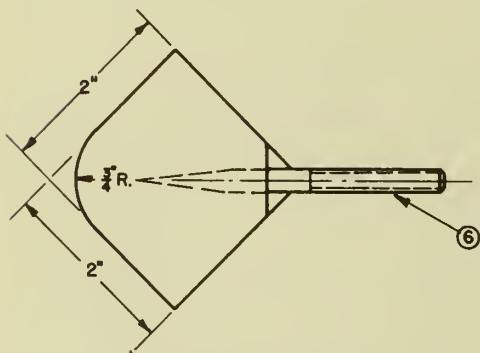
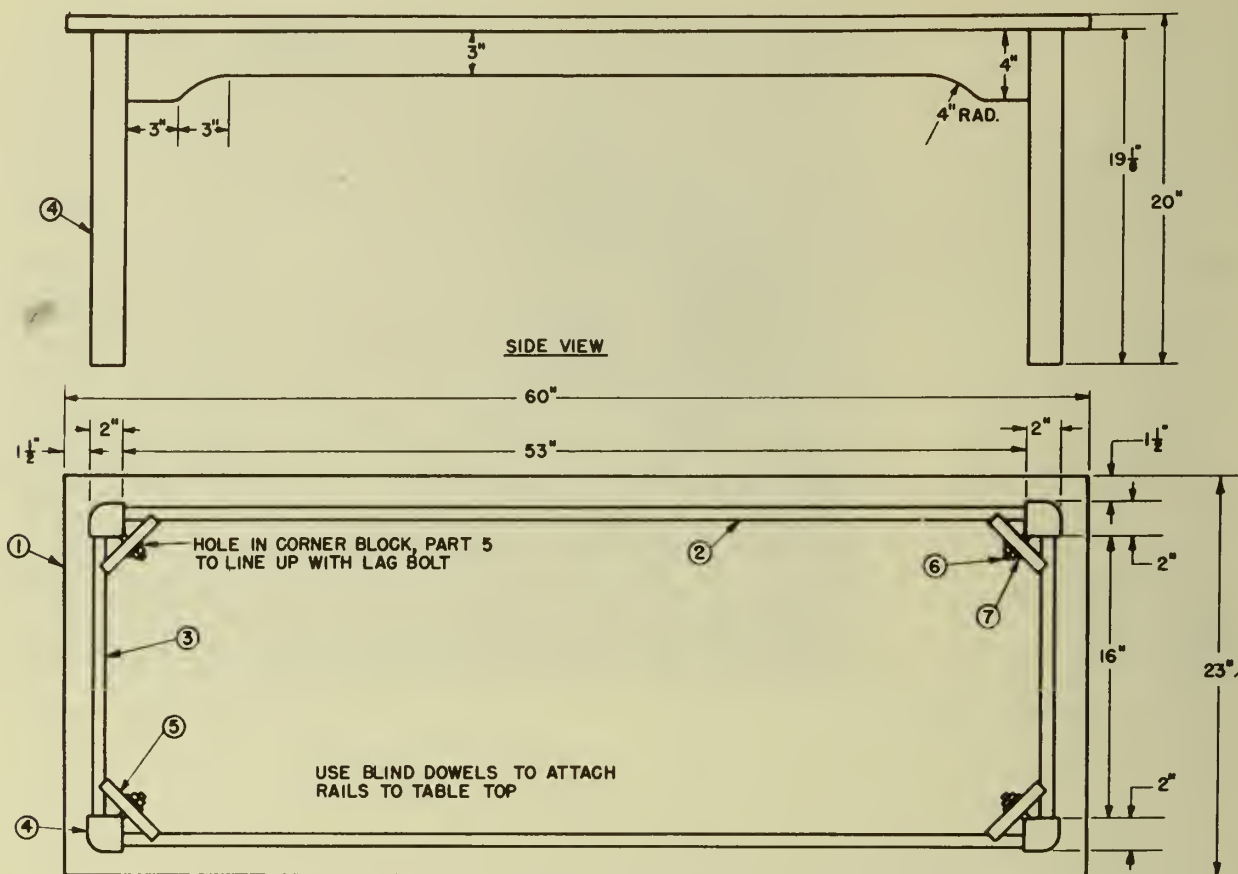
There are several ways to adjust the table height. Blocks with pieces of extended dowseling stick may be used by inserting them into holes bored in the ends of the table legs. Large blocks into which the table legs may be inserted securely also will elevate the table.

Dimensions of the group table in the photograph are 20 inches high; top, 40 inches wide by 80 inches long. Desirable dimensions for smaller group and serving tables to seat four children are 20 inches high; top, 23 inches wide by 60 inches long. (Shown in diagram.)

* Now integrated in Oakland Public Schools System

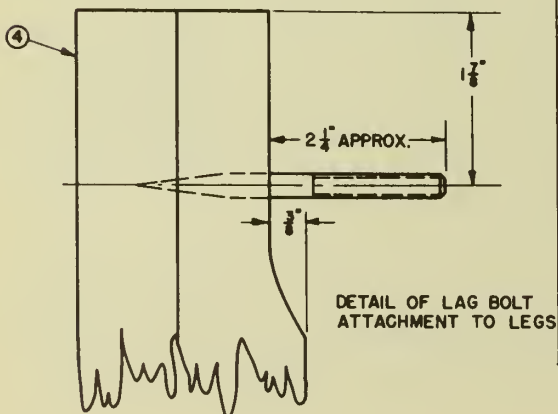
CEREBRAL PALSY EQUIPMENT

TABLE, STANDARD



DETAIL OF NOTCH IN RAILS

NOTE: ROUND OFF ALL EDGES AND CORNERS



BILL OF MATERIALS

Part No.	Name of Part	No. Required	Material	Remarks
1	Table Top	1	3/4" Plywood	60" x 23"
2	Side Rail	2	1" Pine or Maple	53" x 4"
3	End Rail	2	1" Maple or Pine	16" x 4"
4	Leg	4	1" Maple or Pine	2" x 2" x 19 1/8"
5	Corner Block	4	3/4" Maple or Pine	4 7/32" x 3 3/4"
6	Lag Bolt and Nut	4	Steel	3 1/2" x 1/4"
7	Washer	4	Steel	1/4"

Potomac Engineering Corporation, Chicago, Ill.

TABLE, TREATMENT, WITH HIGH SHELF



A treatment table is essential equipment in therapy departments.

Sultan Foundation Nursery School for Handicapped Children, Hawaii Chapter, National Society for Crippled Children and Adults, Inc., Honolulu, Hawaii

TREATMENT TABLE WITH HIGH SHELF

Physical Therapy

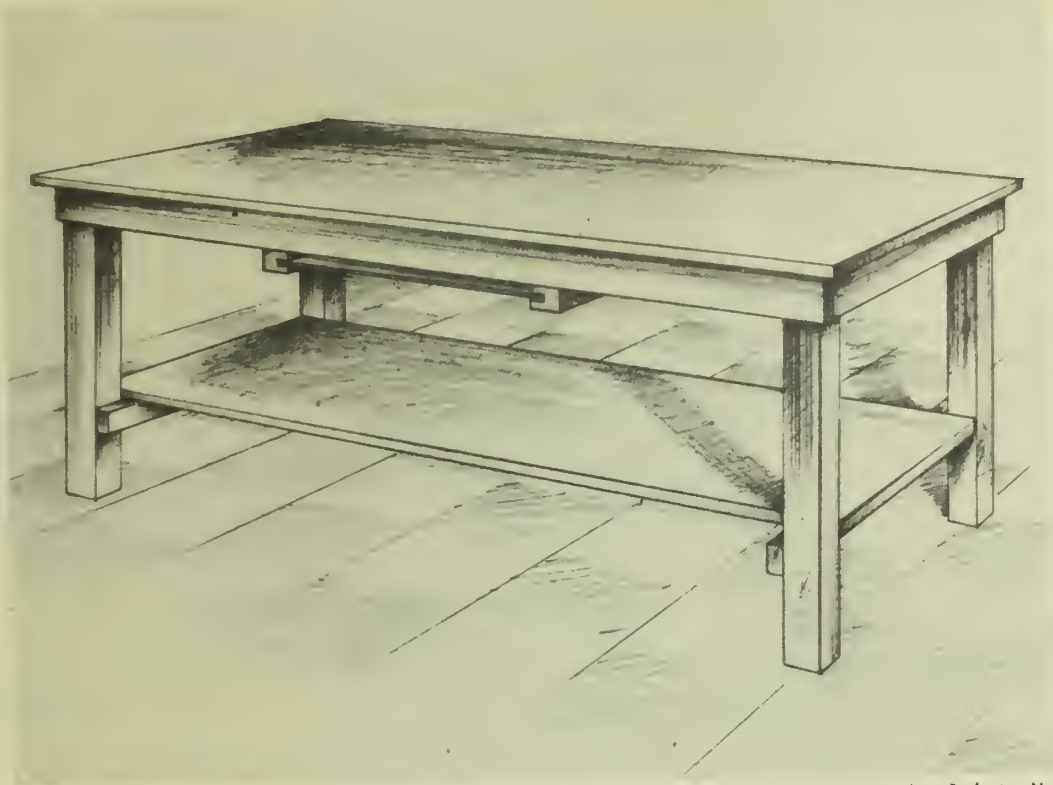
A treatment table for formal exercises may be simple in design but should be solid and sturdy. The length of the table top should be planned according to the height of patients being treated. The width of the table top may vary from two feet to several feet. A narrow table is desirable from the standpoint of ease in reaching across the patient. A wide table is often used to great advantage with a patient who is apprehensive, especially the spastic child who may be stimulated by his fear of falling from a narrow, high table. The height of a treatment table should be planned for the comfort and preference of the therapist. The measurements on the diagram are only suggested ones.

The table covering should be comfortable but firm enough to support body weight in a good reclining posture. Sponge rubber mattresses with rubberized covering are recommended. These may vary in thickness from one to three inches. They are easy to remove and store when necessary to use the table without covering. The rubberized covering is easily cleaned. This is an important factor when treating children. Mattresses of this type may be purchased from surgical and hospital supply firms.

Note the high placement of shelf. This feature eliminates undue reaching and stooping on the part of the therapist. It is useful for storage of sandbags, small pieces of equipment and toys used during the treatment period.

No. 109

TABLE, TREATMENT, WITH REMOVABLE EXERCISE BOARD



Polished board, an aid to exercise.

Cerebral Palsy Association of the Rochester Area, Inc., Rochester, N. Y.

TREATMENT TABLE WITH REMOVABLE EXERCISE BOARD

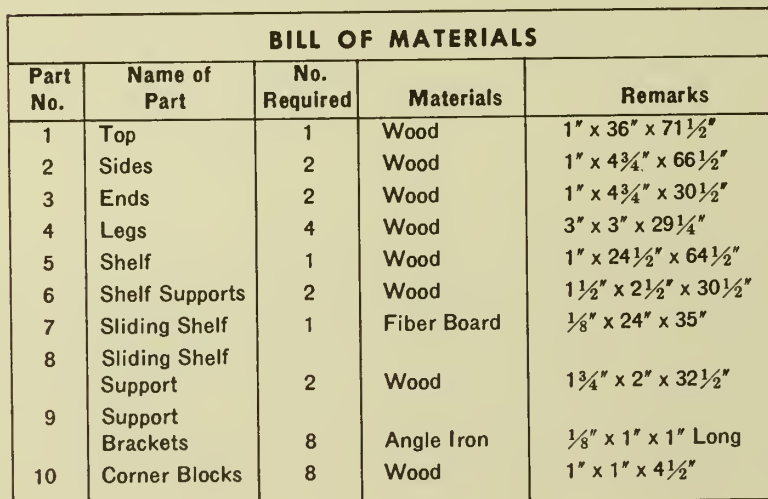
Physical Therapy

(Refer to *Treatment Table with High Shelf* for description of use, covering and measurements.) A special feature of this table is the removable, polished plywood or fiber board which may be used with some patients to eliminate the friction from table covering during exercises. The

board may easily be slipped out of the runners underneath the table top when needed and replaced when not in use. The removable board may be used as a writing board when recording muscle and functional examinations as they are in progress.

No. 110

TABLE, TREATMENT, WITH REMOVABLE EXERCISE BOARD



Published by THE NATIONAL SOCIETY FOR CRIPPLED CHILDREN AND ADULTS, Inc. • Sponsored by ZETA TAU ALPHA, NATIONAL FRATERNITY FOR WOMEN

TABLE, TYPING, SUNK-TOP



A help in teaching a child to type without tension.

Children's Rehabilitation Institute, Cackeysville, Md.

SUNK-TOP TYPING TABLE

Occupational Therapy—Special Education

This is a version of the cut-out table which is useful when teaching typing to the cerebral palsied child with arm and shoulder involvement. It gives maximum support and opportunity for relaxation and allows a position which contributes to finger control. It should be noted that the sunk-top feature is not designed to restrict the child to pure finger motion alone. It serves to afford as much relaxation as possible, particularly of the shoulders, and to help in teaching the child to type with the minimum amount of tension and the minimum amount of effort. A space bar guard or shield can be used with this table.

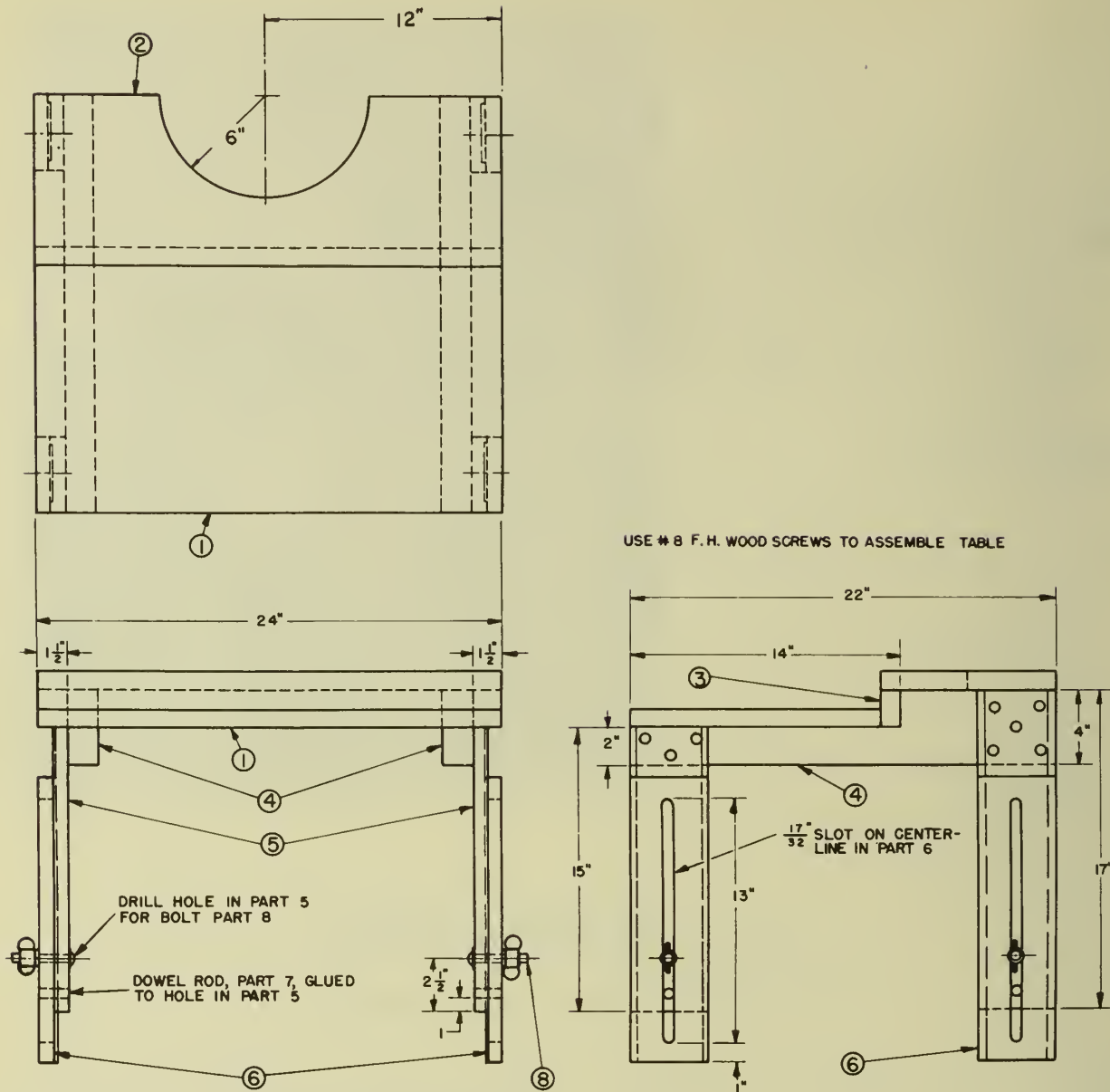
As with all cut-out tables, the child should sit in a properly fitting chair, with his feet on the

floor or on a footstool of proper height and width. The table should be set so that the child's forearms rest comfortably on the upper part, shoulders relaxed and elbows bent at a right angle. The chair should fit against the edge of the table, and the cut-out should fit snugly around the child's waist. His entire arm should be supported by the table top, which should extend beyond his wrist.

The depth of the "well" is determined by the proportions of the typewriter. The "home keys" generally should be on a level with the table top. Adjustable legs make this table useful for children of different sizes, or allow for growth of the child who uses it at home.

No. 111

TABLE, TYPING, SUNK-TOP



BILL OF MATERIALS

Part No.	Name of Part	No. Required	Material	Remarks
1	Top	1	Wood	1" x 24" x 13"
2	Cut-out Top	1	Wood	1" x 24" x 9"
3	2" Spacer-top	1	Wood	1" x 24" x 2"
4	Sides	2	Wood	1 1/2" x 4" x 22"
5	Stationary Legs	4	Wood	—1" x 4" x 17" —1" x 4" x 15"
6	Sliding Legs	4	Wood	1" x 4" x 15"
7	Guides	4	Wood	1/2" Dia. Dowel Rod 1 1/2" Long
8	1/2" Bolts	4	Steel	2 1/2" Long
	1/2" Wing Nuts	4	Steel	
	1/2" Washers	8	Steel	

Children's Rehabilitation Institute, Cockeysville, Md.

TABLE TOP, REMOVABLE CUT-OUT



Provides a many-purpose table and serves as a standing aid.

School District of the City of Wyandotte, Mich.

REMOVABLE CUT-OUT TABLE TOP

Special Education—Occupational Therapy—Physical Therapy

In a schoolroom where space is not available for much individual equipment, it is possible to construct a removable standing table top to fit over regular tables.

As the table tops are easily removable, the surface to which they are attached may serve other purposes. By grouping two to four tables together (with individual tops attached), a group standing table also may be formed.

Special devices and adjustments made in the construction of the trays make it safe and possible for children with varying degrees of handicaps to use them.

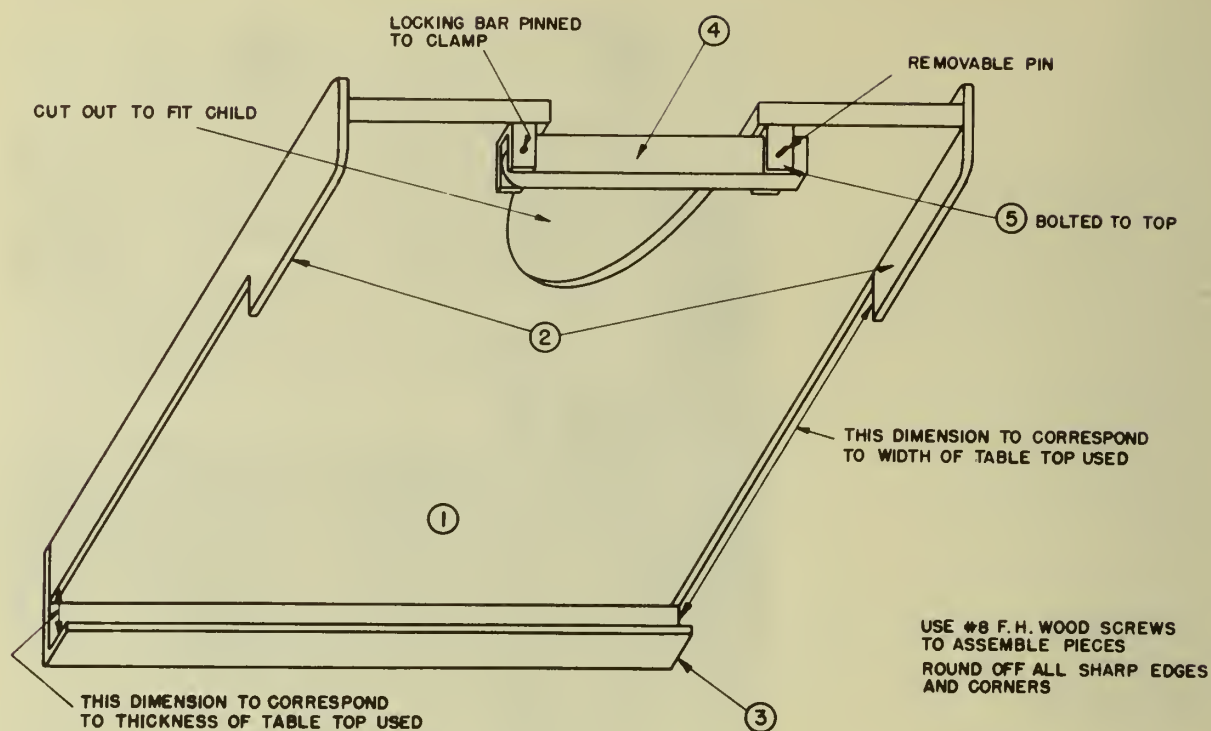
Directions: The removable table top extends over the regular table by approximately 12 inches. This allows for a cut-out to fit around the child's waist.

The dimensions should be worked out according to the size of the child and the type of table used as a base.

The lock-molding (in the shape of a square hook) attached to the under-edge opposite the cut-out prevents tipping. The table top is removable in only one direction.

No. 112

TABLE TOP, REMOVABLE CUT-OUT



BILL OF MATERIALS

Part No.	Name of Part	No. Required	Material	Remarks
1	Top	1	Wood	1" Thick
2	Sides	2	Wood	1/2" Thick
3	Lock Moulding	1	Wood	1/2" Thick, L shaped
4	Locking Bar	1	Wood	To fit across cut
5	Locking Bar Clamps	2	Steel	To fit locking bar

School District of the City of Wyandotte, Mich.

TONGUE CONTROL: TONGUE SPOONS



Give light resistance to guide tongue movements in tongue exercises.

Northwestern University Speech and Hearing Clinic, Evanston, Ill.

TONGUE CONTROL: TONGUE SPOONS

Speech

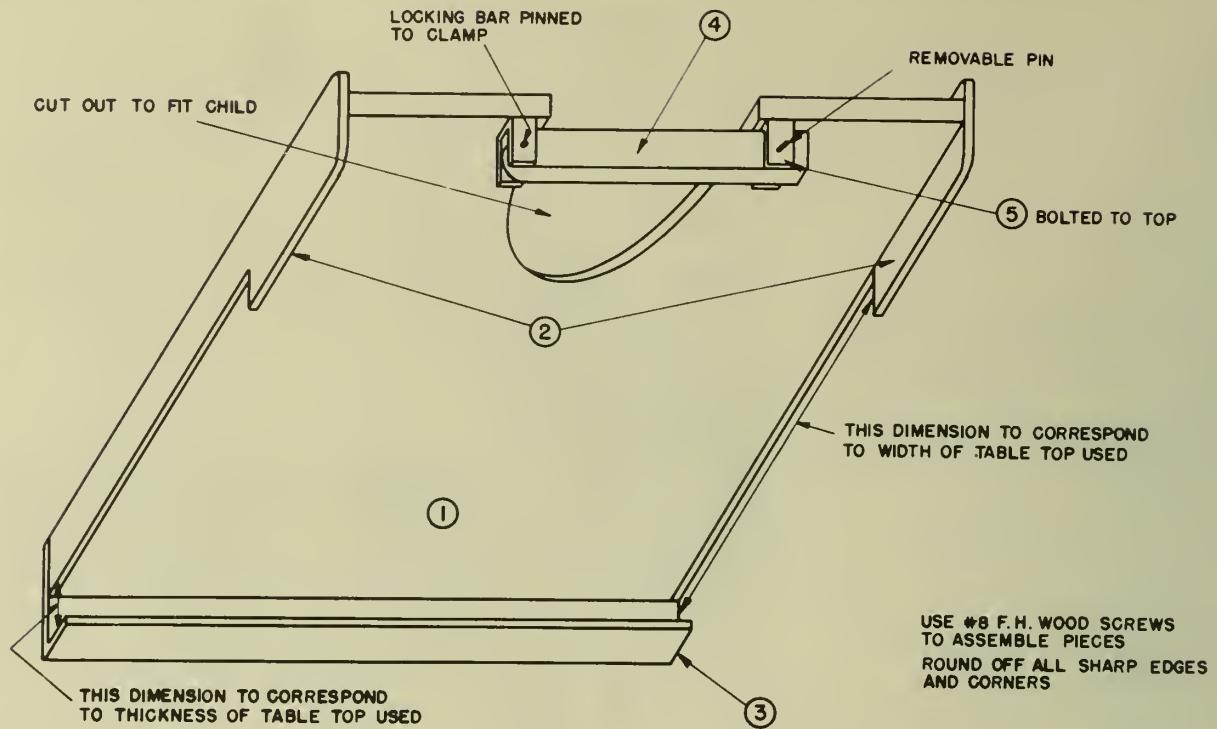
In giving tongue exercises, it is frequently difficult to let a child know just what is wanted. A less abstract way than mirror work or verbal explanation to give a child insight is to have him push on the bowls of modified plastic spoons. The therapist presses the tongue lightly with the bowl of a spoon in a direction opposite to the direction in which the tongue should move. The

child is instructed to "push" the spoon easily with his tongue. The therapist guides the tongue by a light, resisting pressure, not using enough pressure to constitute a strengthening resistive exercise, but just enough pressure to serve as a guide for the movement. Different shapings of the spoon bowls are achieved to adapt them for different aspects of the tongue.

No. 113

CEREBRAL PALSY EQUIPMENT

TABLE TOP, REMOVABLE CUT-OUT



BILL OF MATERIALS				
Part No.	Name of Part	No. Required	Material	Remarks
1	Top	1	Wood	1" Thick
2	Sides	2	Wood	1/2" Thick
3	Lock Moulding	1	Wood	1/2" Thick, L shaped
4	Locking Bar	1	Wood	To fit across cut
5	Locking Bar Clamps	2	Steel	To fit locking bar

School District of the City of Wyandotte, Mich.

TONGUE CONTROL: TONGUE SPOONS



Give light resistance to guide tongue movements in tongue exercises.

Northwestern University Speech and Hearing Clinic, Evanston, Ill.

TONGUE CONTROL: TONGUE SPOONS

Speech

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No. 113

TONGUE CONTROL: TONGUE SPOONS

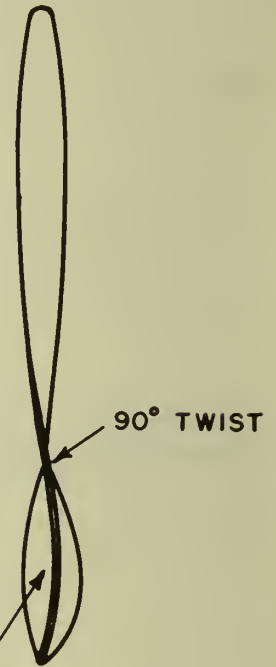
FLATTENED PLASTIC SPOON
WITH TIP CUT OFF



PLASTIC SPOON
(BENT)



PLASTIC SPOON
(TWISTED)



BOWL SHAPED
TO FIT TONGUE

Northwestern University Speech and Hearing Clinic, Evanston, Ill.

TONGUE, LIP, JAW ACTIVITY: FACE-DOWN FEEDING



Adapting essential muscle training for speech for young children.

Northwestern University Speech and Hearing Clinic, Evanston, Ill.

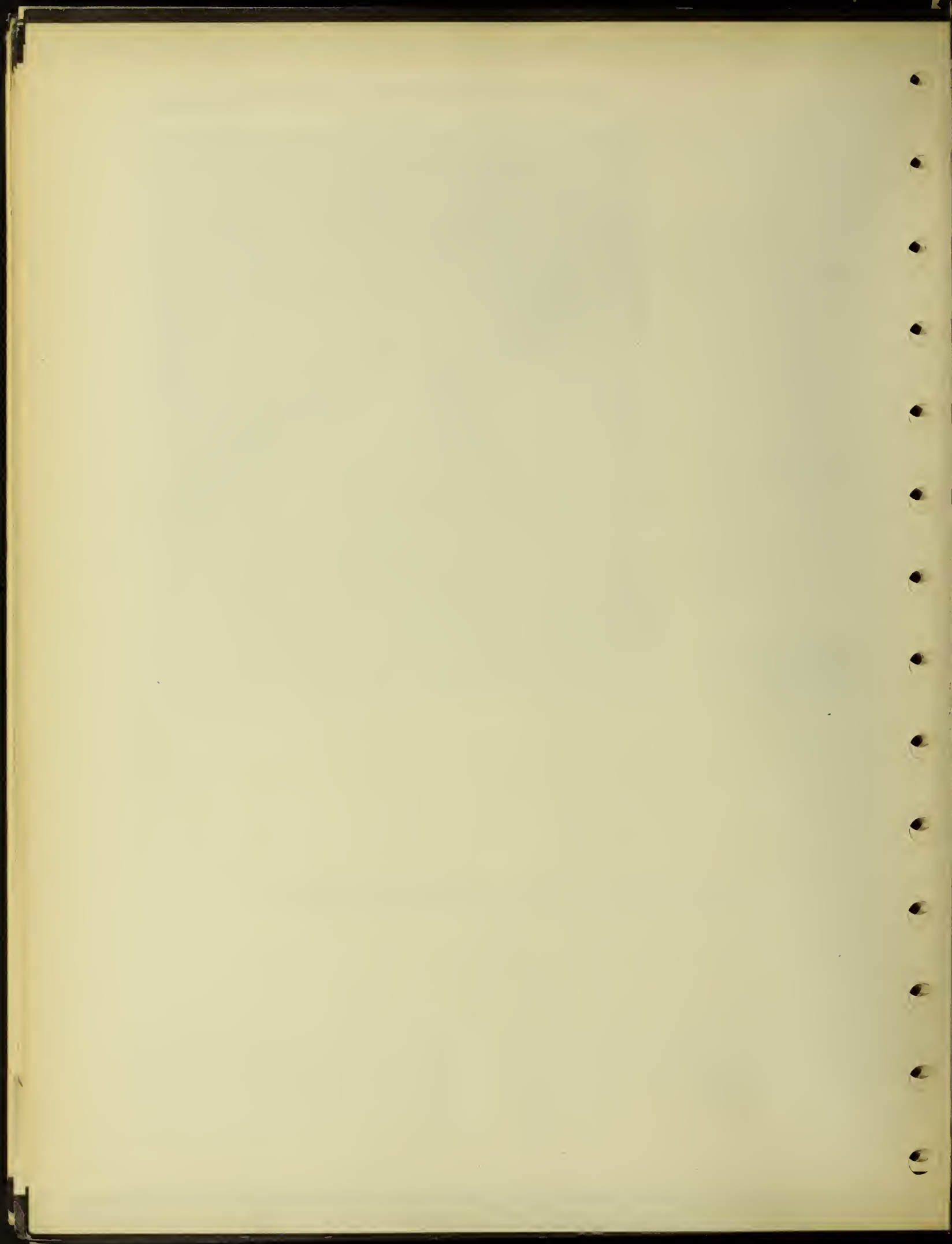
TONGUE, LIP, JAW ACTIVITY: FACE-DOWN FEEDING

Speech

Feeding bits of cookie or cracker while the child is lying on his stomach, develops activity of the speech mechanism which is important in speech. Its usefulness is much the same as that

of the modified nursing bottle (refer to *Peristaltic Pattern: Modified Nursing Bottle*) except that chewing also is involved. Developmentally, this exercise should come later than the nursing bottle.

No. 114



TONGUE-TIP CONTROL: TONGUE-TIP STRAW



Exercising the tip of the tongue, combined with a blowing exercise.

Northwestern University Speech and Hearing Clinic, Evanston, Ill.

TONGUE-TIP CONTROL: TONGUE-TIP STRAW

Speech

One of the most basic movements in speech involves the elevation of the front and sides of the tongue in its adjustment with the alveolar border. Placing the plastic straw (illustrated) in the mouth as it is held in place by the tongue, while the child blows or sucks through the straw, provides an exercise for this fundamental speech movement.

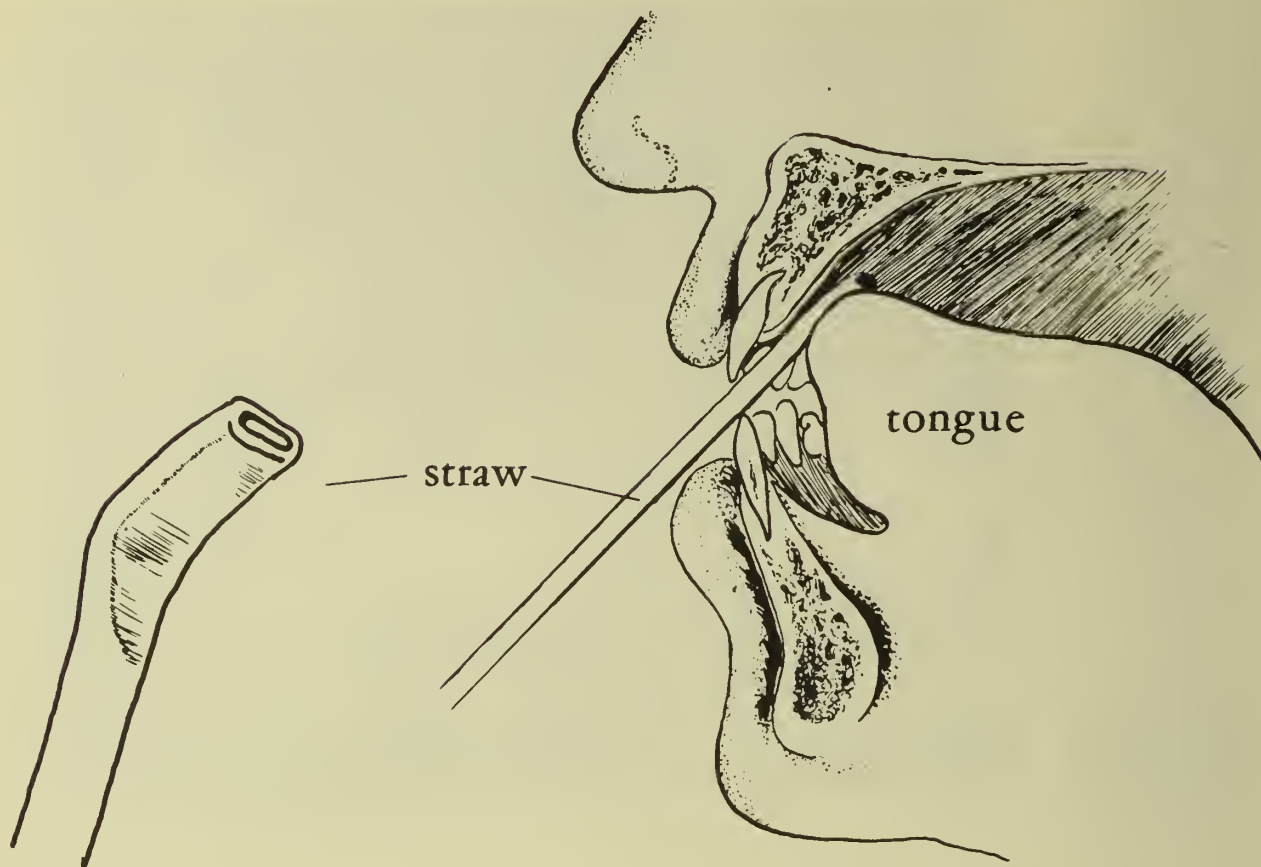
Since it is important to encourage the eleva-

tion of the blade of the tongue separately from jaw activity, the mouth should remain open. An eraser may be used to keep the mouth open if the child cannot elevate the tongue without elevating the jaw at the same time.

This exercise should come rather late in the speech training sequence, certainly after considerable control over oral exhalation has been established.

No. 115

TONGUE-TIP CONTROL: TONGUE-TIP STRAW



Northwestern University Speech and Hearing Clinic, Evanston, Ill.

TOY: CONE TOWER



Cones for building are easily manipulated.



Curative Workshop of Milwaukee, Milwaukee, Wis.

TOY: CONE TOWER

Occupational Therapy—Special Education

An activity common to most children is block building which starts with simple piling. The cerebral palsied child can get block building experience through cones which fit one on the other and cannot be knocked over easily. The cones are lightweight and easy to handle.

In the nursery school, the toy brings a phase of normal play experience within reach of the severely handicapped cerebral palsied child.

In occupational therapy, this toy is indicated for certain cases where there is limitation of

shoulder motion. As range of motion increases, more cones may be added to the tower.

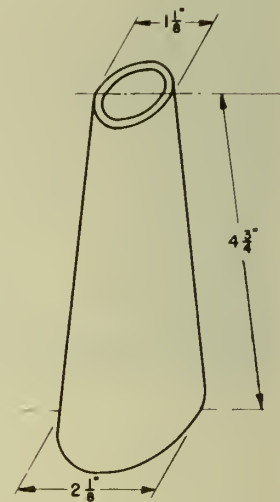
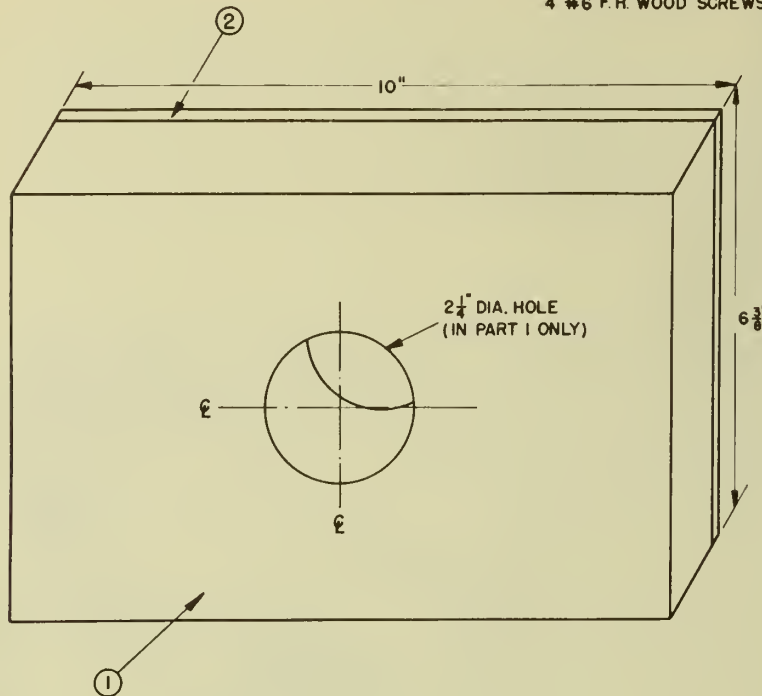
The cone tower is especially valuable for partially-sighted children, as the tower remains firm while each additional cone is being added.

Directions: Paint carpet warp spools in bright colors with non-poisonous enamel, first using an undercoat of filler. Make the base of the cone from one and one-half inch pine, with a center hole to fit the first cone of the tower.

No. 116

TOY: CONE TOWER

PART 2 FASTENED TO BASE WITH
4 #6 F.H. WOOD SCREWS



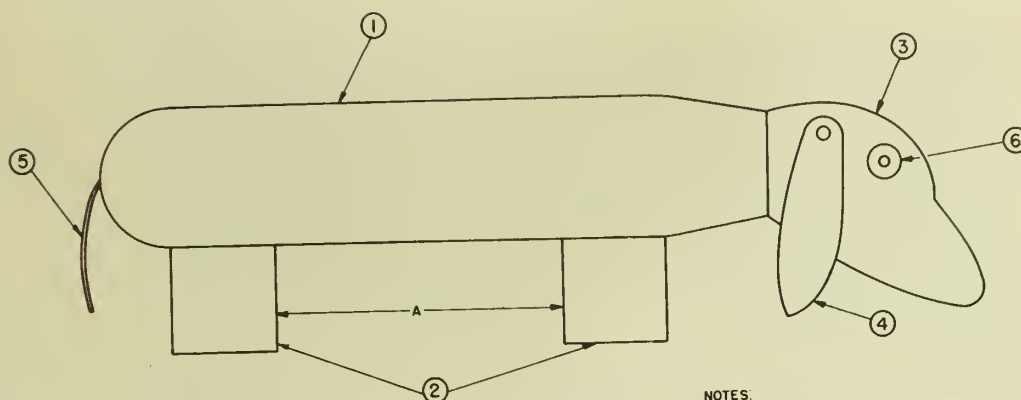
(3) CARPET WARP SPOOL
WALL THICKNESS $\frac{1}{8}$ "
ENAMEL FINISH

BILL OF MATERIALS

Part No.	Name of Part	No. Required	Material	Remarks
1	Base	1	Wood	1 $\frac{1}{4}$ " x 6 $\frac{3}{8}$ " x 10"
2	Baseboard	1	Plywood	3 $\frac{1}{16}$ " x 6 $\frac{3}{8}$ " x 10"
3	Cone	10	(Carpet Warp Spools)	

Curative Workshop of Milwaukee, Milwaukee, Wis.

TOY: EXTENSION TOY



Aids in development of wrist and elbow extension in very young children.

NOTES:
A = DISTANCE SLIGHTLY LARGER THAN
WIDTH OF HAND.
GLUE PARTS OF DOG TOGETHER.

Sigma Gamma Hospital School, Detroit Orthopaedic Clinic, Mt. Clemens, Mich.

TOY: EXTENSION TOY

Occupational Therapy

This toy is indicated for the small child who habitually carries his wrist in the flexed position, but who is able to extend it voluntarily. The dog is put into the child's hand, with feet facing the child. By extending the wrist, the child then sets the dog on its feet. Practice in grasp and release and elbow extension can be combined with this activity.

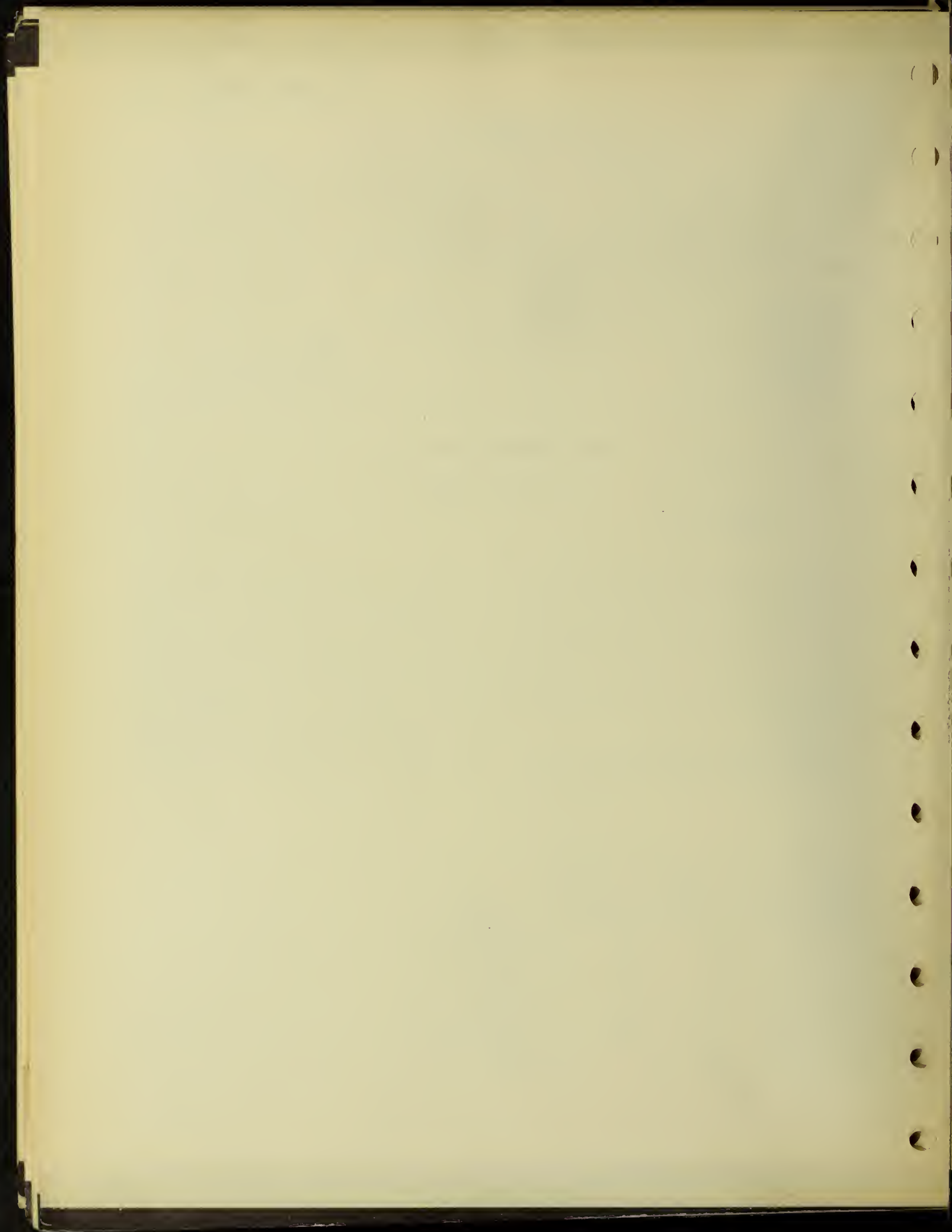
In the treatment of spastic hemiplegias, one-handed activities should be medically prescribed.

Directions: The small dog is made from a one-inch dowel. The ears are felt; the tail, string; the eyes made with a bead fastened on by a brad. The legs are three-fourths of an inch long and three-fourths of an inch in diameter. The head is whittled out of the dowering and glued on securely. The legs are set in and glued. Space "A" should be slightly larger than the width of the child's fist. For larger children the entire dog should be increased in size.

BILL OF MATERIALS

Part No.	Name of Part	No. Required	Material	Remarks
1	Body	1	Wood	1" Dia. Dowel, 2 3/4" x A" Long
2	Legs	2	Wood	3/4" Dia. Dowel, 3/4" Long
3	Head	1	Wood	1" Dia. Dowel, 2" Long
4	Ears	2	Felt	Tackled to Head
5	Tail	1	String	Tacked to Body
6	Eyes	2		2 Brads and 2 Beads

No. 117



TOY: PEG BOARD



Learning to grasp objects is important.

Curative Workshop of Milwaukee, Milwaukee, Wis.

TOY: PEG BOARD

Occupational Therapy—Special Education

A peg board toy is valuable because it provides opportunity for grasp, release and placement. For the cerebral palsied child, variety in peg boards is needed because this type of activity is often used over a long period of time and it is necessary to introduce new toys to hold the child's interest.

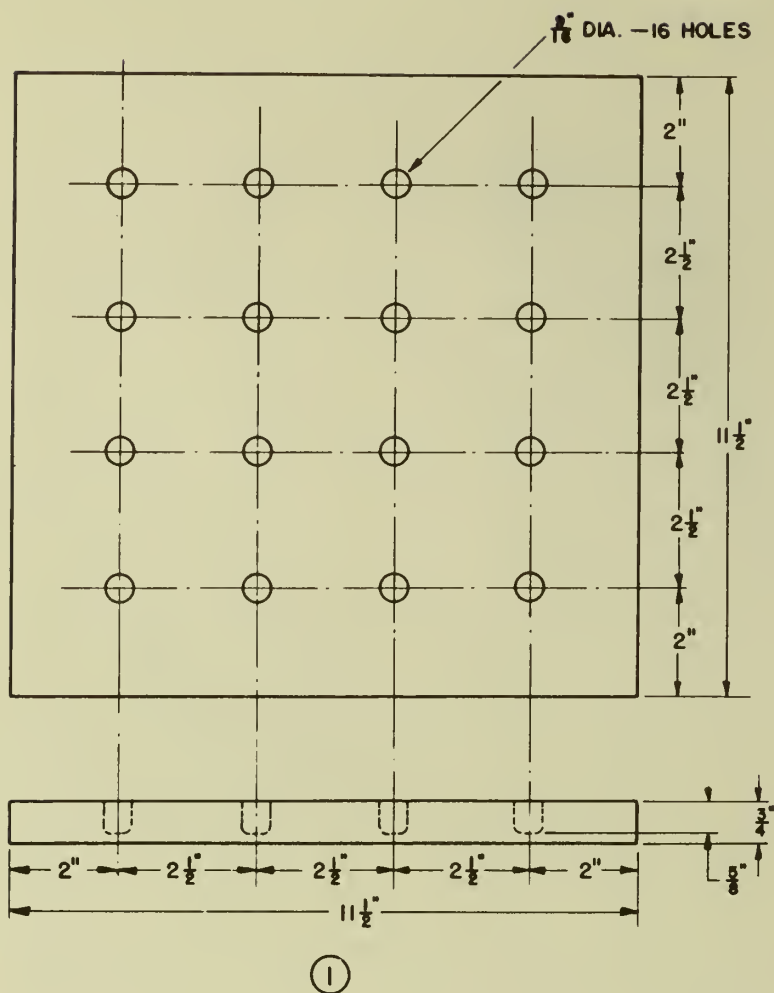
A flower garden toy with round colored discs

mounted on one-half inch doweling serves as a good peg toy. The round flat heads raised from the surface of the board enable a child to grasp and hold the peg comfortably until he wishes to release it and provide an opportunity to handle and reassemble many pieces.

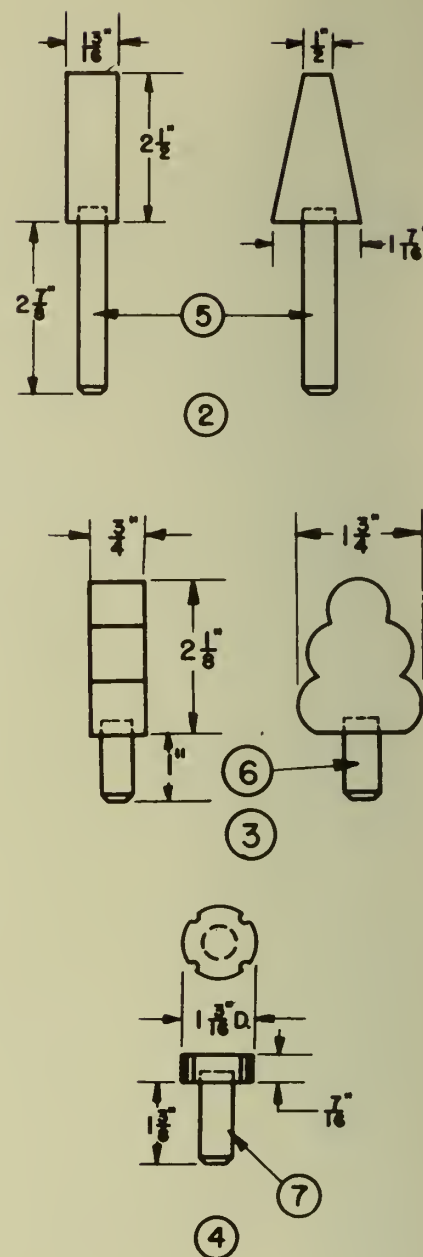
Directions: Paint flowers and trees with non-poisonous enamels.

No. 118

TOY: PEG BOARD



INSERTS, PARTS 2, 3, 4, DRILLED FOR DOWELING AS SHOWN AND THEN GLUED



BILL OF MATERIALS

Part No.	Name of Part	No. Required	Material	Remarks
1	Base	1	Wood	3/4" x 11 1/2" x 11 1/2"
2	Large Insert	4	Wood	See Detail
3	Medium Insert	2	Wood	See Detail
4	Small Insert	10	Wood	See Detail
5	Large Insert Peg	4	1/2" Doweling	3 3/8" Long
6	Medium Insert Peg	2	1/2" Doweling	1 1/4" Long
7	Small Insert Peg	10	1/2" Doweling	1 5/8" Long

Curative Workshop of Milwaukee, Milwaukee, Wis.

TOYS: SQUEEZE BULB; CLOWN; DUCK; SANDBAG



Motivates the child to use more volume in speech.

Northwestern University Speech and Hearing Clinic, Evanston, Ill.

TOYS: SQUEEZE BULB

Speech

It is often difficult to teach cerebral palsied children to make their voices loud or soft at will. They must learn the meaning and importance of changes in loudness.

Pluto, the Pup (illustrated) or any squeeze

bulb toy which will hop when a rubber bulb is pressed may be used. When the child makes a sufficiently loud sound, the therapist presses the bulb and Pluto jumps up. When the child makes a soft sound, the therapist relaxes the pressure on the bulb and the dog goes back to sleep.

No. 119

TOYS: SQUEEZE BULB; CLOWN; DUCK; SANDBAG



University of Illinois Speech Clinic, Urbana, Ill.

TOYS: DUCK

Speech—Special Education

The abilities to open and close the mouth, to hold it open or closed and to follow a pattern of successive openings and closings are essential

motor skills for the cerebral palsied child to learn. The illustrated duck with the flexible bill constitutes an excellent teaching device.

TOYS: CLOWN

Speech—Special Education



University of Illinois Speech Clinic, Urbana, Ill.

Nimble control of the tongue is important in good speech. The child may be helped to become aware of his tongue, as well as to improve his tongue control, through imitating such toys as the illustrated clown. When the lever is pressed,

the clown's tongue is projected and the tongue is withdrawn when the lever is released. This toy can be used to stress either tongue projection or retraction or patterns of alternate projection and retraction with variable timing.

TOYS: SQUEEZE BULB; CLOWN; DUCK; SANDBAG



Sand-filled toys may help to control extraneous movements and bring relaxation during speech lessons.



University of Illinois Speech Clinic, Urbana, Ill.

TOYS: SANDBAG

Speech—Special Education—Occupational Therapy

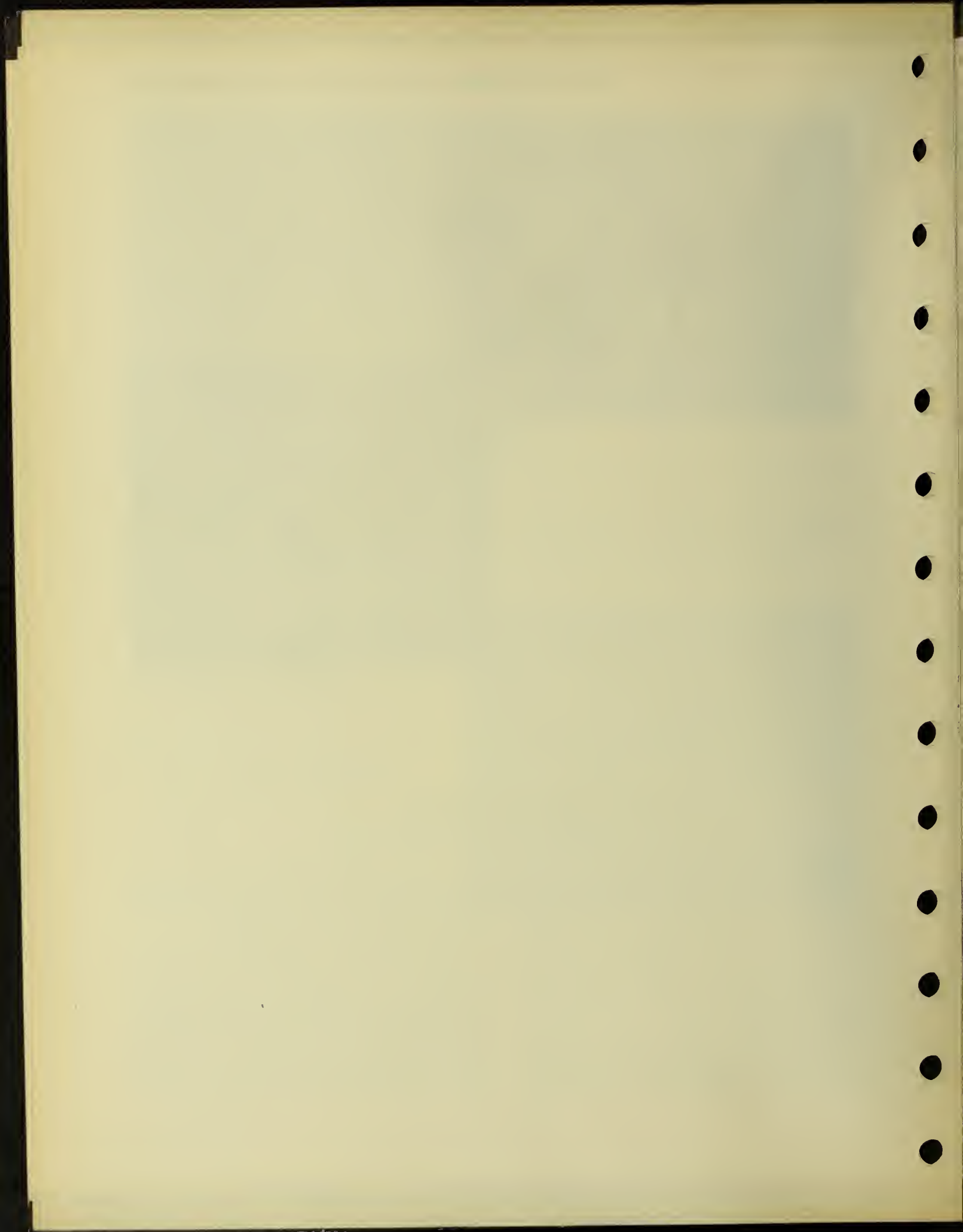
Speaking activity may trigger athetoid movements of the arms, shoulders and head. Likewise, athetoid movements of the arms, shoulders and neck may trigger movements of the tongue, jaw, face and larynx. Consequently, stabilization of the head, arms, shoulders and trunk may be highly important in teaching speech. Sandbags, camouflaged as toys, are very useful in such stabilization.

Such sandbag toys may have a variety of forms. A doll's head and arms may be attached to a sandbag which is concealed by the doll's full

skirt. A fat, fluffy clown may have a trunk stuffed with sand. Wooly animals may be stuffed with sand or gravel. The toys should represent a variety of shapes, sizes and weights.

The "dressing up" of the sandbags is done to make them more acceptable and to furnish a "play-way" to blocking out disturbing larger movements while finer coordinations of the speaking act are learned. A dog may be laid on a child's upper arm and shoulder. It is heavy enough to help to limit extraneous movement. (Refer to *Sandbags* for further use.)

No. 119 (cont.)



TYPING AID: SPACE BAR GUARD



A simple typing aid.

Children's Rehabilitation Institute, Cockeysville, Md.

TYPING AID: SPACE BAR GUARD

Occupational Therapy—Special Education

In their effort to strike the correct key on the typewriter, many cerebral palsied children unintentionally strike the space bar. To prevent this, a guard with only one opening may be placed over the space bar.

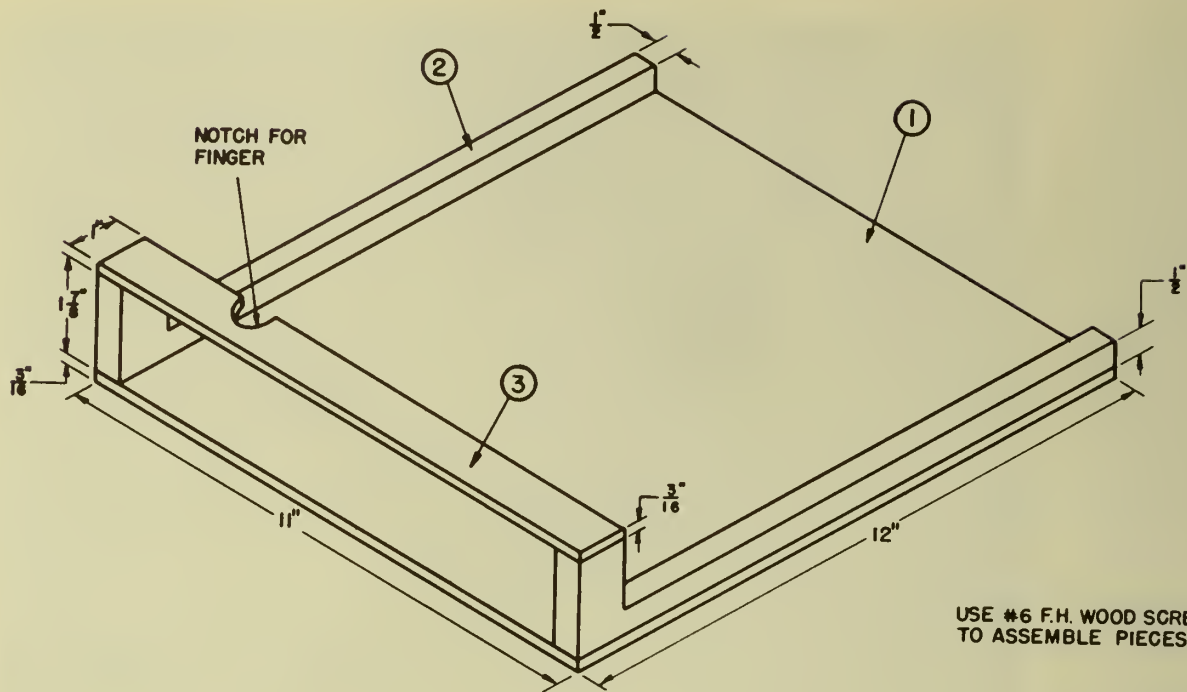
Directions: The guard may be made of wood, plastic or metal. The design will vary according to the design of the typewriter on which it is to be used. It should come 1/16 inch above the

space bar, and care should be taken in measuring that it does not bind at the sides. The cut-out through which the child can strike the space bar should accommodate the largest finger of the largest child who will use it. The cut-out may be placed to the right or left of the space bar or in the center.

A diagram of a space bar guard to fit one kind of typewriter is shown on the following page.

No. 120

TYPING AID: SPACE BAR GUARD



BILL OF MATERIALS

Part No.	Name of Part	No. Required	Material	Remarks
1	Base	1	Wood	$\frac{3}{16}$ " x 11" x 12"
2	Sides	2	Wood	$\frac{1}{2}$ " x $1\frac{7}{8}$ " x 12"
3	Guard Bar	1	Wood	$\frac{3}{16}$ " x 1" x 11"

Children's Rehabilitation Institute, Cockeysville, Md.

TYPING AID: TYPEWRITER SHIELD



This helps the severely handicapped to type.



Children's Rehabilitation Institute, Cockeysville, Md.

TYPING AID: TYPEWRITER SHIELD

Occupational Therapy—Special Education

Some cerebral palsied children have trouble with typing because their fingers hit more than one key at a time. While they voluntarily are striking one key, they involuntarily strike others. This difficulty can be prevented by a typewriter shield which makes it possible to strike one key at a time. The severely handicapped child who cannot hit the keys with one finger often can grasp a pencil and type with the eraser end.

An additional advantage of the typewriter shield is that the child can rest his hand on it, thereby getting some support.

Material: Typewriter shields may be made of aluminum or thin plastic. Those illustrated are of aluminum.

Directions: Typewriter shields should be made

to fit the typewriter with which they are to be used.

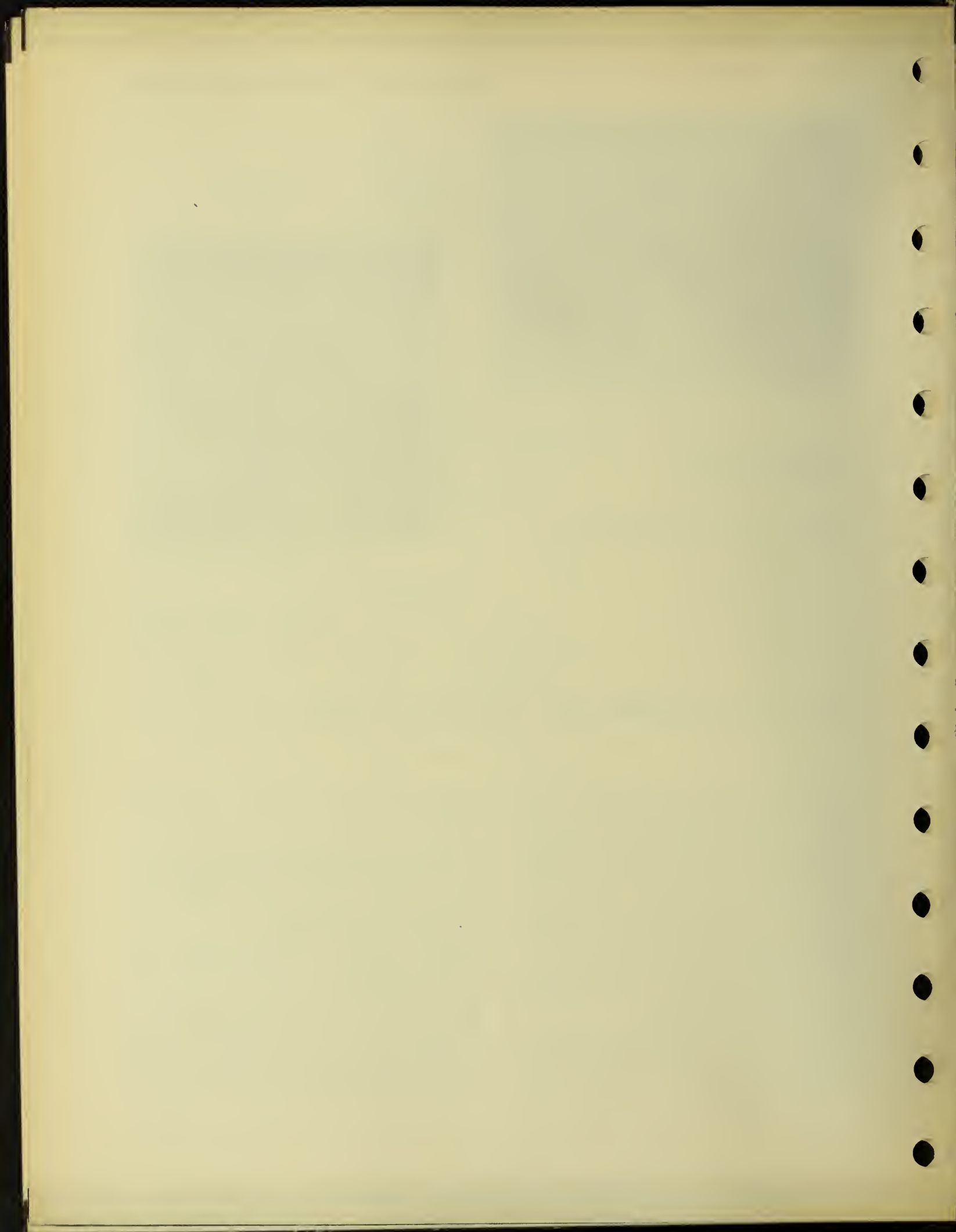
Cut a paper pattern to cover the keys and extend it down on either side so that the shield can either rest on the table, or be attached to the typewriter with bolts or rivets. Indicate holes or slots for all movable parts.

Construct the shield according to the pattern, leaving one-sixteenth inch space between the shield and the keys.

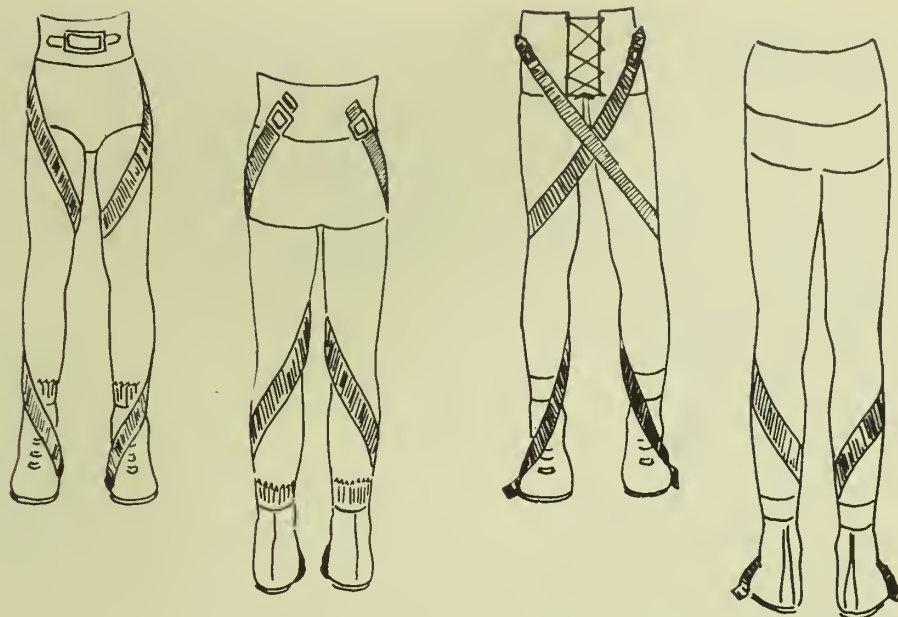
On the electric* typewriter (illustrated at right) the shield slants because of the pitch of the keys.

On the portable typewriter (illustrated at left) the shield is stepped because the keys are banked.

*See *Commercial Listing*.



TWISTERS



A reminder for good weight-bearing position.

Children's Rehabilitation Institute, Cockeysville, Md.

TWISTERS

Physical Therapy

Twisters are used to correct rotation of legs. They should be used only when medically prescribed. Both the therapist and doctor should observe carefully and be alert to any undue stimulation of stretch reflex.

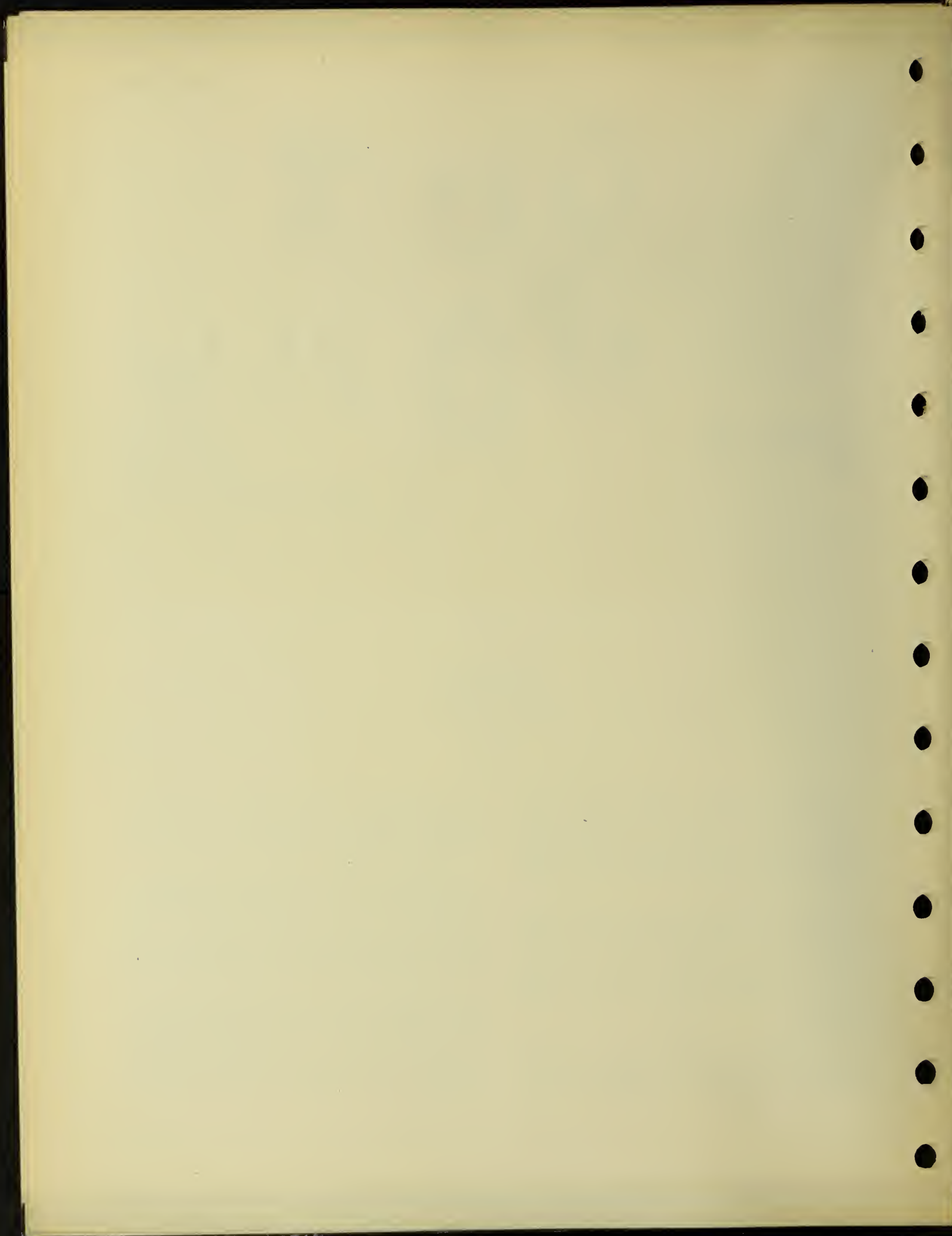
For correction of external rotation, the twister is attached to the side of the front of a pelvic band. It passes diagonally across front of thigh to opposite leg, across lower thigh, behind knee around to the front at calf level and attaches to the lateral side of shoe at about the head of metatarsal.

For correction of internal rotation, the twister is attached to back, passes diagonally across the front of upper thigh of same leg, behind the knee

from medial side across the calf in front and is attached to shoe on the medial side at about the head of metatarsal.

The corset is made of double canvas. It varies in width from three to six or more inches depending upon size of child. It laces in the front. The twisters are made of elastic webbing one inch wide. Non-elastic webbing is sewed to each end for the purpose of buckling to shoes and corset.

The length of twisters is measured by using a tape measure pulled snugly from hip, across the thigh, around calf to the shoe. Deduct two or more inches from this measurement, depending on the strength of the child's muscles and tension desired.



VOICE CONTROL: JACKIE THE SAILOR



Therapeutic aid for
breath control.

University of Illinois Speech Clinic, Urbana, Ill.

VOICE CONTROL: JACKIE THE SAILOR

Speech

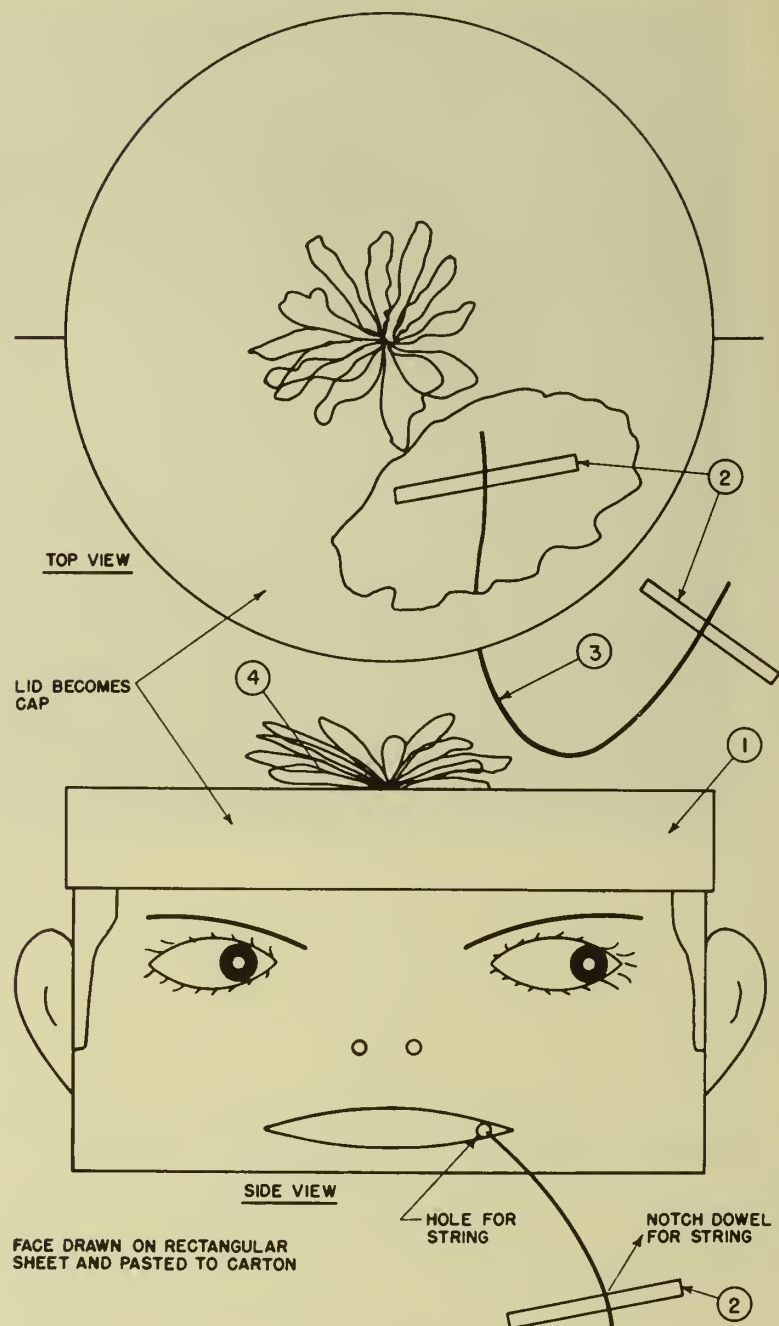
An attractive face is drawn on the side of a round paper carton, with a hole in the mouth through which a string can be pulled in or out easily. The string passed through the opening should have a large button or bead at each end so it cannot be drawn entirely through the hole,

and so the child can grasp the string and pull on it.

The purpose of the string-pulling is to encourage the child to produce prolonged, even tones. The therapist pulls the string as long as the child continues a sound or a vowel, as "ah-ah."

No. 123

VOICE CONTROL: JACKIE THE SAILOR



BILL OF MATERIALS

Part No.	Name of Part	No. Required	Material	Remarks
1	Head	1	Paper Carton and Lid	
2	Dowels	2	Wood	1 3/8" Dia., 2" Long
3	String	1 pc.	Heavy Cord	12" Long
4	Decorations		Colored Paper Ribbon	

University of Illinois Speech Clinic, Urbana, Ill.

WRITING AID: CRAYON HOLDERS



Children's Rehabilitation Institute, Cockeyville, Md.

The ball crayon holder is easy to grasp.



The tin crayon holder prevents crayon from crumbling.

WRITING AID: CRAYON HOLDERS

Special Education—Occupational Therapy

A cerebral palsied child often finds it difficult to hold a crayon and impossible to hold a short piece of crayon. Lack of finger control causes the crayons to break or crumble. The ball crayon holder facilitates grasp and the tin crayon holder prevents the crayon from being broken and also permits the use of short stub ends of crayon.

Ball Crayon Holder

METHOD A

Material: Sponge rubber ball.

Directions: Cut a hole in a sponge rubber ball and insert crayon.

METHOD B

Materials: Cotton, waxed paper, adhesive tape.

Directions: Wrap waxed paper around crayon. Cover with a wad of cotton and criss cross with

adhesive tape. (The waxed paper permits removal and replacement of crayons.)

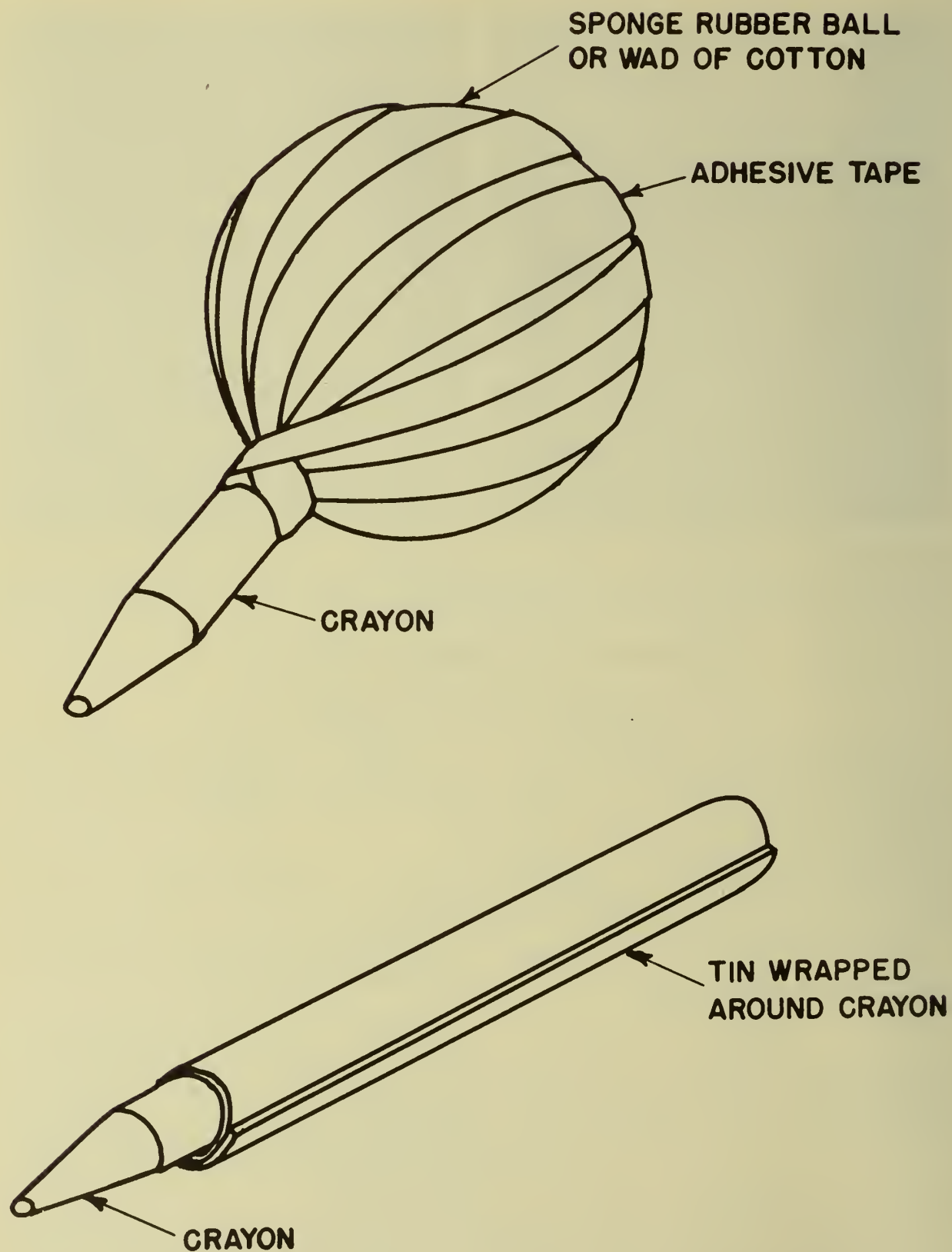
Tin Crayon Holder

Materials: Tin, dowel or hard pencil, wooden plug or cork.

Directions: Cut a piece of tin from a discarded can. Wrap it around a dowel or hard pencil until it is round enough to hold a crayon. Put adhesive tape along the edge. Crayons may be slipped in and out easily. A wooden plug or cork can be put in the end to keep the crayon from slipping out the top.

Caution: Be sure that all edges of metal are filed off smoothly or are folded in.

WRITING AID: CRAYON HOLDERS



Children's Rehabilitation Institute, Cockeysville, Md.

WRITING AID: MODIFIED TOOLS AND PAPER



Modified writing tools and paper may help make writing possible.

Minneapolis Public Schools, Minneapolis, Minn.

WRITING AID: MODIFIED TOOLS AND PAPER

Special Education—Occupational Therapy

Many cerebral palsied children need more bulk to grasp than an ordinary pencil allows. A pencil pushed through a ball of sponge rubber, cut to fit the child's grasp, provides bulk. Other children need not only a larger holding surface, but a modified grip as well. Wood shaped to fit the child's grasp and attached to a pencil with rubber binders or adhesive tape aids the child to use his thumb in holding the pencil.

To prevent breakage, chalk may be reinforced with cellophane tape, wound with adhesive or inserted in rubber hose.

Size and type of paper used also may be factors which aid a child in learning to write. Beginning with unlined butcher or easel paper, a child may progress to paper with lines spaced two inches apart. As the child's hand coordination improves, spacing may be decreased.

Some children need paper held in place in

order to write. Thumbtacks or scotch tape at each corner of the paper may be used. (Soft wood drawing boards will be needed if thumbtacks are used.)

Measurements and Directions: Hand grips may be made of different sizes. Have the child grasp (fist fashion) varying size pieces of doweling sticks to determine the size which is easiest for him to grasp.

Materials: Paper—varying size of line space.

Pencils—large or small depending on need.

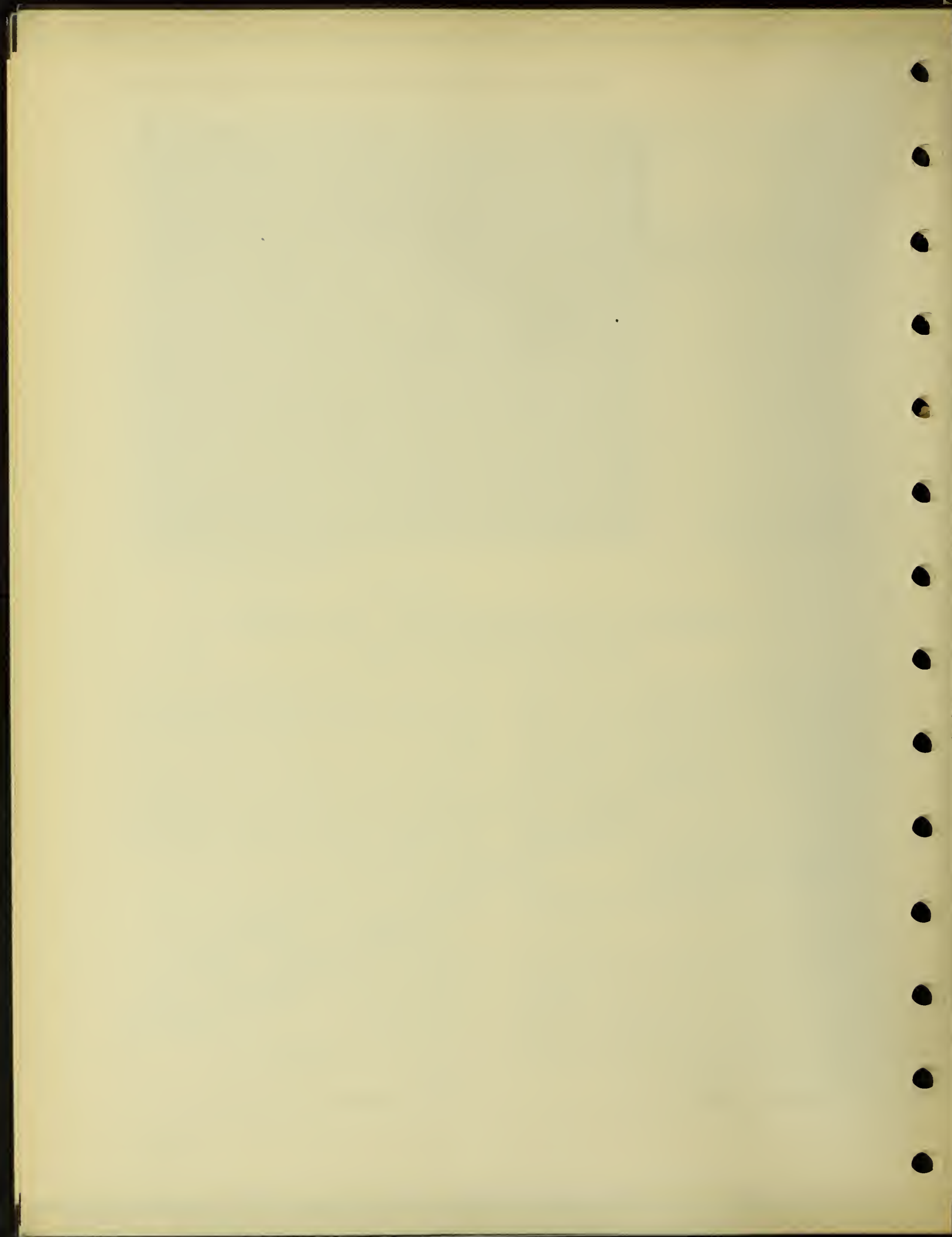
Dustless chalk—varying size according to need.

Sponge rubber to be cut to size needed by child.

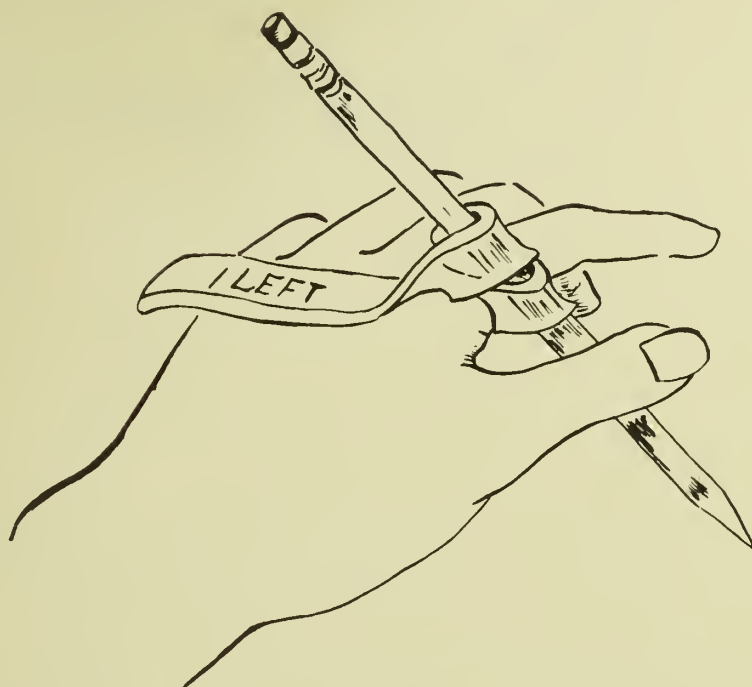
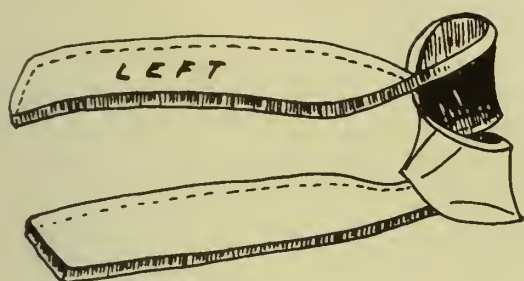
Cellophane tape.

Wood.

Elastic bands, adhesive tape or cord.



WRITING AID: PENCIL HOLDER



Facilitates writing before grasp is learned.

Children's Rehabilitation Institute, Cockeysville, Md.

WRITING AID: PENCIL HOLDER

Occupational Therapy—Special Education

It is sometimes desirable to start teaching cerebral palsied children to write before they have learned satisfactory grasp and release. This type of pencil holder can then be utilized.

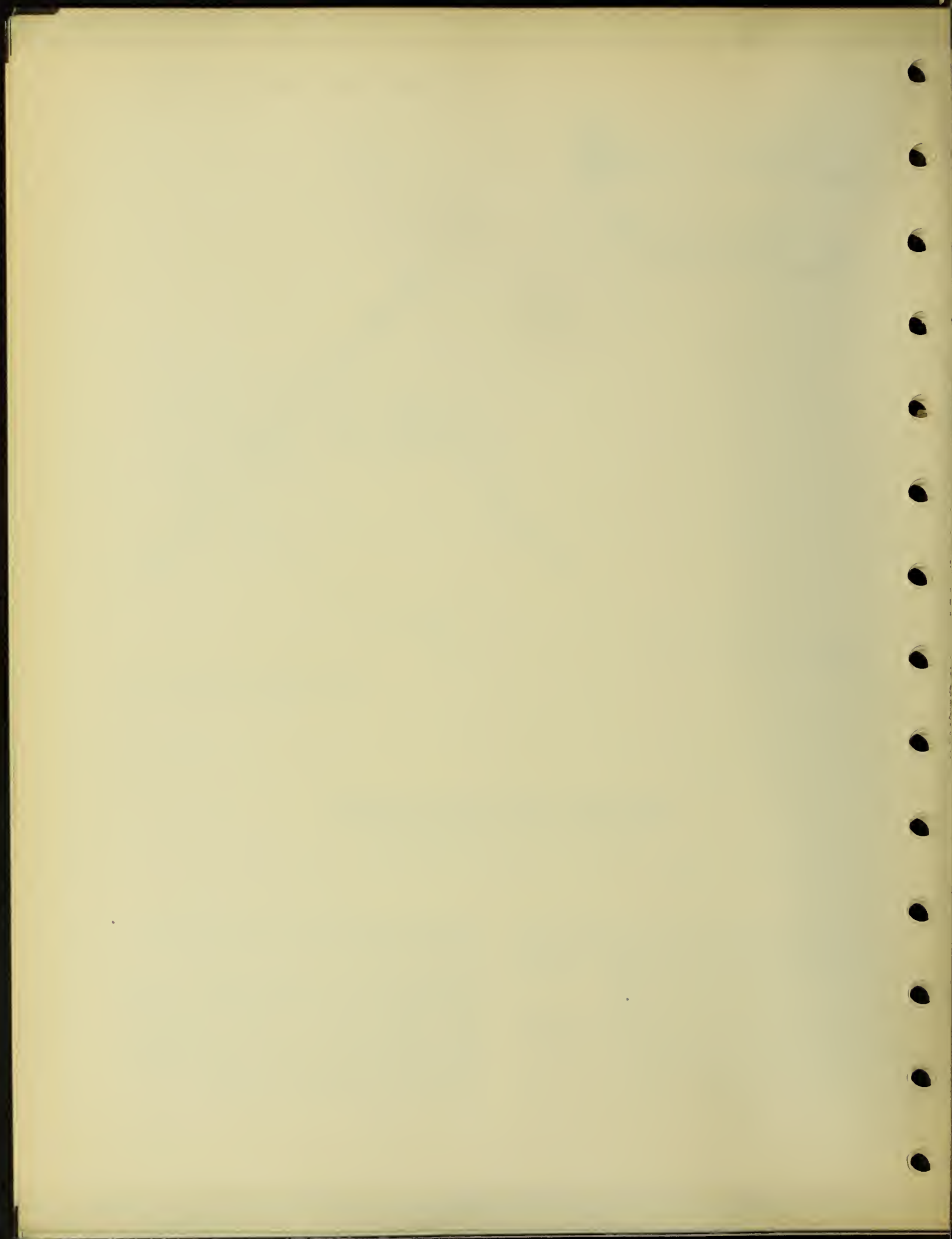
One arm of the holder fits across the back of the hand, the other fits across the palm. A rubber band wrapped around the pencil will keep it from slipping through the holder.

The item illustrated is for the left hand. The

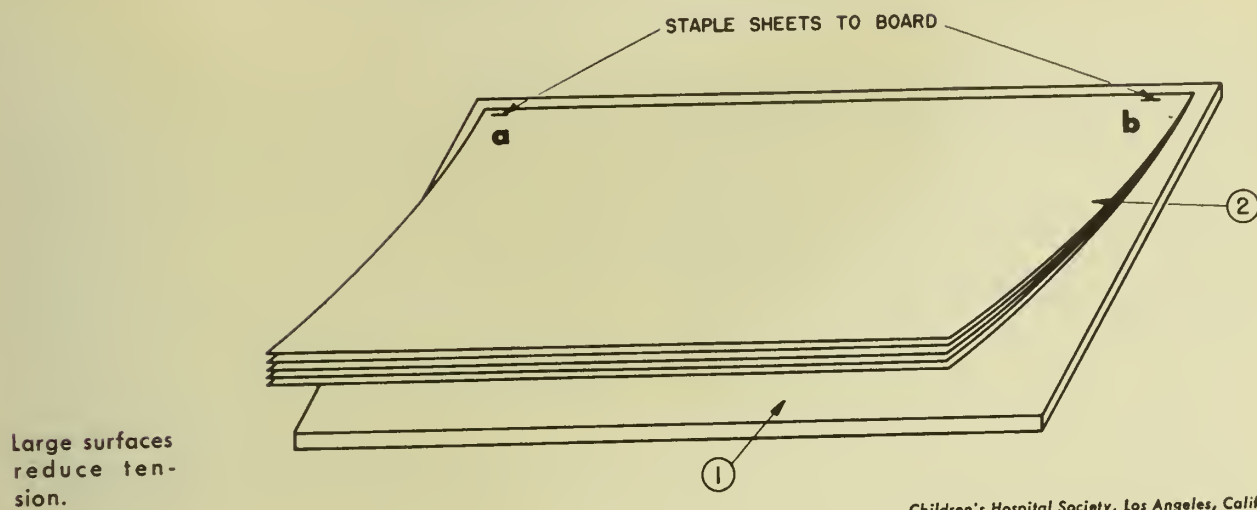
right-hand holder spirals in the opposite direction to the left-hand holder.

Directions: Use one-eighth inch plastic. Cut a one-half inch strip six inches long for a small child, nine inches long for an adult. Smooth all edges carefully. Heat the plastic in hot water until it is flexible, and wrap it around the pencil. Fit the arms of the holder carefully across the back of the hand and across the palm.

No. 126



WRITING AID: WRITING BOARD



WRITING AID: WRITING BOARD

Special Education—Occupational Therapy

This simple writing board may be used in the classroom and/or the occupational therapy shop. Its large size permits the cerebral palsied child to write or color without the tension produced by being restricted to a small area. Art work may be thumbtacked to its surface, permitting such activities as stencilling or spatter-work. Since the sheets are stapled at the top edge, they may be turned back like a tablet.

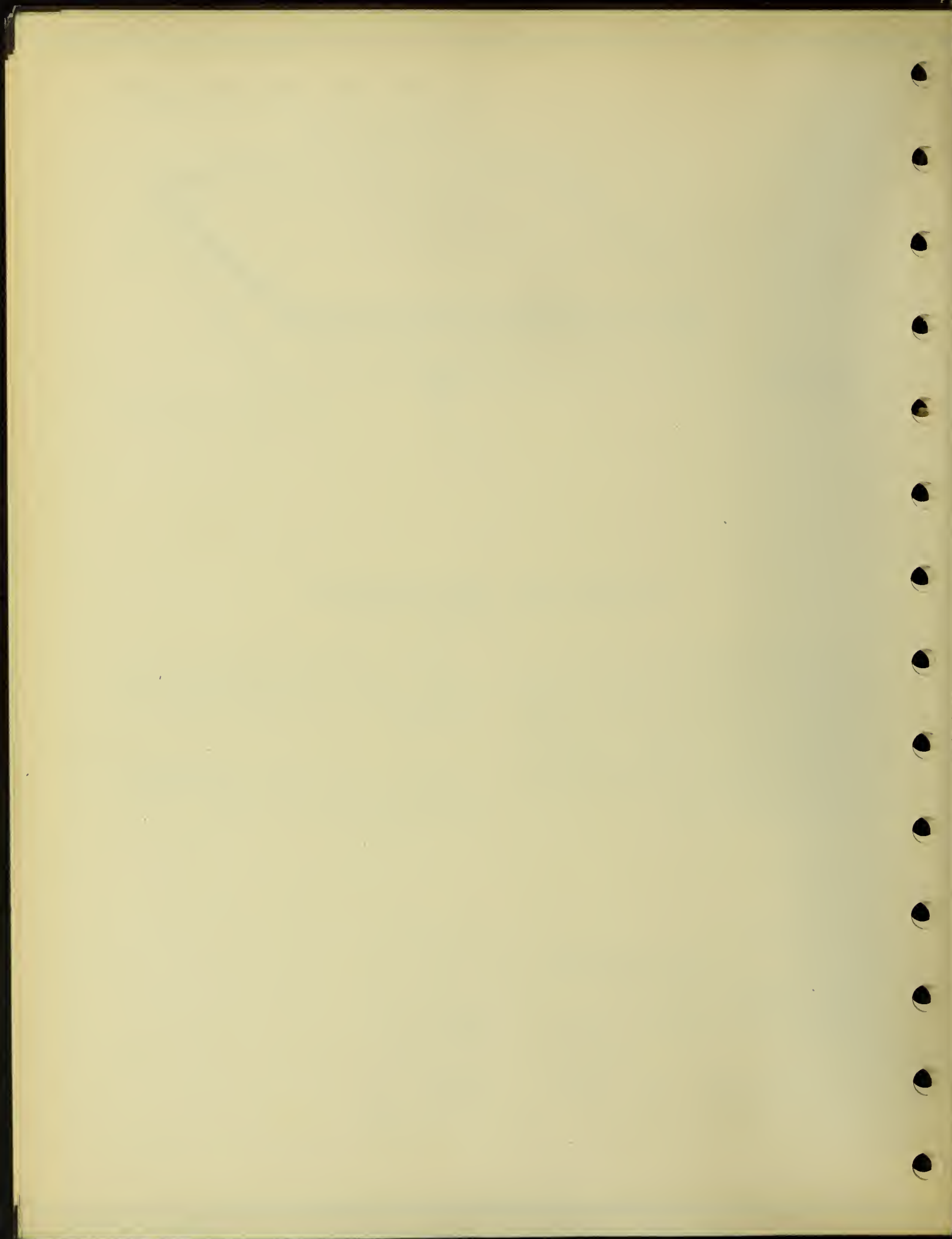
Materials: Oblong piece of heavy construction material (celotex or its equivalent) into which thumbtacks may be fastened easily. Staples. Newsprint sheets.

Directions: Cut material to fit inside edge of child's work table or tray. Staple newsprint sheets across top of board "A—B."

BILL OF MATERIALS

Part No.	Name of Part	No. Required	Materials	Remarks
1	Board	1	Celotex or Equivalent	To fit Work Table
2	Paper Sheets	(Indef.)	Newsprint	To fit Board

No. 127



APPENDIX A: BIBLIOGRAPHY

SPECIAL REFERENCES

The publications in this section are a selection of those that are listed and annotated in *A Selected Bibliography on Cerebral Palsy* which is compiled by the Library of the National Society for Crippled Children and Adults.

American Journal of Occupational Therapy. Mar.-Apr., 1950. 4:2.

Entire issue devoted to articles on cerebral palsy, including "Toys adapted to cerebral palsy children, Milwaukee Curative Workshop," p.68-69.

American Occupational Therapy Association. Committee on Research and Efficiency. *Cerebral palsy round robin digest, 1938-1941*. New York, The Assn., 1943. 55p., illus. Mimeo.

Out of print. The original notebooks from which the material was digested are available on loan from the Association.

Association for the Aid of Crippled Children, New York City. *The cerebral palsied child and his care in the home*, prepared by Viola E. Cardwell. New York, The Assn., 1946. 196p., illus.

Appendix B: "Illustrations of equipment," p.165-180. This appendix is also published separately as a reprint.

—. *Diagrams and directions for making equipment for handicapped children, particularly the cerebral palsied*. New York, The Assn., 1948. 28p., illus. Mimeo.

*Brunyate, Ruth M. OT means freedom for parents. *Crippled Child*. Feb., 1949. 26:5:11-13,28-29.

California. Department of Public Health. Crippled Children Services. *Equipment used in the training of cerebral palsy patients in occupational therapy departments*. San Francisco, The Services, 1949. 30 leaves of drawings and brief text. Mimeo.

Children's Rehabilitation Institute, Cockeysville, Md. *Cerebral palsy equipment for physical therapy and occupational therapy*. Sketches by Helen R. Sims. Cockeysville, Md., The Institute, n.d. 22 leaves of drawings. Mimeo.

Collis, Eirene. *A way of life for the handicapped child: a new approach to cerebral palsy*. London, Faber and Faber, 1947. 183p., illus.

"Mechanical aids and supports and equipment," p.118-129.

*Dillingham, Elizabeth. Feeding and dressing techniques for the cerebral palsied. *Crippled Child*. Dec., 1948. 26:4:20-22,29.

Egal, Paula F. *Techniques of treatment for the cerebral palsy child*. St. Louis, C. V. Mosby Co., 1948. 203p., illus.

Contains photographic reproductions of appliances and equipment.

Farrell, Eleanor H. Equipment for the cerebral palsy child. *Pub. Health Nursing*. Jan., 1941. 33:35-38.

Gardner, Warren H. *Left handed writing; instruction manual prepared for use in the school, clinic or home*. Revised edition. Danville, Ill., The Interstate, c1945. 28p.

*Available in reprint form from the National Society for Crippled Children and Adults, at 10¢ a copy.

Gratke, Juliette McIntosh. *Help them help themselves*. Dallas, Texas, Texas Society for Crippled Children, 1947. 184p.

Great Britain. British Council for the Welfare of Spastics, London. *Notes for parents on the home care of children handicapped by cerebral palsy*. London, The Council, 1949. 23p.

Accompanied by a special section titled "Illustrations of special equipment."

Hutchinson, Esther. *Handbook on physical therapy for cerebral palsy*, by Esther Hutchinson, Elizabeth Lancot and Winthrop Morgan Phelps. 3rd edition. Columbus, O., Ohio Society for Crippled Children, 1947. 48p., illus.

Kawin, Ethel. *The wise choice of toys*. 2d edition. Chicago, Univ. of Chicago Press, 1938. 154p., illus.

"Toys for children with special needs: For children with spastic paralysis," p.131-137.

*Kersten, Charlotte. Modern methods make a world of play. *Crippled Child*. June, 1948. 26:1:10-11,29.

Kuhnen, Joan C. Reciprocal motion skis for cerebral palsied children. *Physical Therapy Rev.* Nov., 1949. 29:11:517-518.

—. The therapeutic value of reciprocal motion skis. *J. of the Association for Physical and Mental Rehabilitation*. Feb.-Mar., 1950. 41:1:8-9.

Loviner, Della Griffith. *The cerebral palsied child goes to school*, by Della Griffith Loviner and Edith Carey Nichols. Columbus, O., Ohio Society for Crippled Children, 1946. 37p., illus.

Lundberg, Ruth W. Wooden helps to learning. *Crippled Child*. Feb., 1940. 17:5:141,155-156.

Milward, Eleanor Ward. Speech therapy as a unit in the project for the treatment of cerebral palsy. *Occupational Therapy and Rehabilitation*. Apr., 1939. 18:2:79-83.

Palmer, Martin F. Studies in clinical techniques: II. Normalization of chewing, sucking and swallowing reflexes in cerebral palsy; a home program. *J. of Speech Disorders*. Dec., 1947. 12:4:415-418.

*Peins, Maryann. You can help at home. *Crippled Child*. July-Aug., 1949. 27:2:20-23.

Pennsylvania Society for Crippled Children and Adults, Harrisburg. *Basic physical therapy equipment for treating cerebral palsied children*, compiled by Rebecca B. Hastings, drawings by T. Henry Jablonski. Harrisburg, Pa., The Society, 1948. 24 leaves of drawings and brief text. Mimeo.

APPENDIX A: BIBLIOGRAPHY (Continued)

*Perlstein, Meyer A. Speech therapy for children with cerebral palsy, by M. A. Perlstein and Marie Shere. *Am. J. of Diseases of Children*. Oct., 1946. 72:4:389-398.

Richardson, Nina K. *Type with one hand*. Chicago, South-western Pub. Co., c1946. 15p.

Rogers, Gladys Gage. *New pathways for children with cerebral palsy*, by Gladys Gage Rogers and Leah C. Thomas. New York, Macmillan Co., 1935. 167p., illus.

Chapter 4, "Toys." Chapter 5, "Apparatus."

*——. Toys, games and apparatus for children with cerebral palsy. *Physical Therapy Rev.* Jan., 1949. 29:1:5-11.

Reprinted with revisions from *Physiotherapy Rev.*, Jan.-Feb., 1935, p.18-22.

Rutherford, Berneice R. *Give them a chance to talk; handbook on speech correction for cerebral palsy*. Minneapolis, Burgess Pub. Co., 1948. 116p., illus. Planographed.

Appendix: "Equipment," p.111-113.

St. James, Robertine. Reciprocal action skis in the treatment of cerebral palsy. *Physiotherapy Rev.* Sept.-Oct., 1943. 23:5:199-200.

*Shere, Marie Orr. Let Raggedy-Ann help teach your child to talk. *Crippled Child*. Feb., 1949. 26:5:14-15,30.

Shriner, Mildred. *Foundations for walking*. Chicago, National Society for Crippled Children and Adults, 1950.

Partial contents: Locomotion goals, the proper chair for sitting, other equipment to aid sitting balance, getting around on wheels, the child is lifted and carried, the child stands, the child walks.

Sokolov, June. A rehabilitation workshop builds equipment for cerebral palsied children, by June Sokolov and Joan Roy. *Crippled Child*. Oct., 1949. 27:3:7-9.

Texas Scottish Rite Hospital for Crippled Children, Dallas. *Instructions to parents for home treatment of cerebral palsied children*. Dallas, The Hospital, n.d. 23 leaves of drawings. Mimeo.

*Tudyman, Al. A public school plan for special cerebral palsy classes. *Crippled Child*. Feb., 1949. 26:5:20-22,29.

GENERAL REFERENCES

The suggestions found in the general publications listed below were intended for the normal child. Many of them, however, may be found equally useful for the handicapped child, or may be so after proper adaptation.

Association for Childhood Education. *Make for the children: apparatus, furniture, toys*. Prepared by Page Kirk. Revised. Washington, D.C., The Assn., 1948. 36p., illus.

——. *Recommended equipment and supplies for nursery, kindergarten, primary and intermediate schools*. Revised. Washington, D.C., The Assn., 1949. 44p. (General service bul.)

Educational Playthings. *Handbook of educational work-and-play materials for mothers and teachers of young children*. 5th ed. Sandusky, Ohio, American Crayon Co., 1946-47. 79p., illus.

*Ide, Lois Kyper. A purchasing guide for toys. *Hygiea*. Dec., 1945. 23:12:898-900.

*Available in reprint form from the National Society for Crippled Children and Adults, at 10¢ a copy.

Langdon, Grace. *How to choose toys*. New York, American Toy Institute, 1949. 5p.

Toy Manufacturers of the U.S.A. American Toy Institute. *How to make room for play; featuring plans for the second of a series of model playrooms designed by famous architect, Joseph Aronson*. New York, The Institute, 1949. 12p., illus.

——. ——. *So you're going to build a playroom. Here's how to make the most of your playroom space. A series of interesting and unusual plans designed by Joseph Aronson, distinguished American architect*. New York, The Institute, 1947. 7p., illus.

U.S. Children's Bureau. *Home play and play equipment for the pre-school child*. Washington, D.C., Govt. Print. Off., 1946. 19p., illus. (Publication no. 238)

APPENDIX B: LIST OF COMMERCIAL FIRMS

Listed below are commercial firms that manufacture or distribute equipment and aids that have been found useful with cerebral palsied children and adults. This is not intended as a definitive list but includes those firms that were brought to our attention during the preparation of the *Cerebral Palsy Equipment* manual.

BICYCLE JIG SAWS

- D. J. Alexander, 423 West Coulter St., Philadelphia 44, Pennsylvania.
- The Steiner Products Company, St. Louis 6, Missouri.

BICYCLES

- Edward J. Dyksma, 15116 Marshfield Avenue, Harvey, Illinois.
- Hamilton Bicycle Company, 151 North Emporia Avenue, Wichita 2, Kansas.
- Huffman Manufacturing Company, Dayton, Ohio.
- Progressive Cycle and Auto Supply Company, 85 Chambers Street, New York, New York.
- Workman Cycle Company, 446 Adelphi Street, Brooklyn 17, New York.

CHAIRS AND TABLES

- Adjustics, Incorporated (formerly, Dukin), 428 East 67th Street, New York, New York.
- American Manufacturers Concern, Falconer, New York.
- American Seating Company, Grand Rapids 2, Michigan (Envoy Chair).
- Appleton Juvenile Furniture, Appleton, Wisconsin.
- Babee-Tenda Corporation, Department 36-CP, 750 Prospect Avenue, Cleveland 15, Ohio.
- Joseph J. Block, 1107 West Ainslie Street, Chicago, Illinois.
- E. P. Dillon, 1109 East 57th Street, Kansas City, Missouri.
- Educators Furniture and Supply Company, Incorporated, 918 Eleventh Street, Sacramento 14, California.
- Everest and Jennings, 1032 North Ogden Drive, Los Angeles, California.
- R. T. Hogg, 7538 South Ridgeland Avenue, Chicago, Illinois.
- Louis H. Klein, 1328 Vista Grande, Millbrae, California.
- Master Industries, 333 North Michigan Avenue, Chicago, Illinois.
- H. Meulenberg and Sons, Grand Rapids, Michigan.
- Overman Enterprises, 903 North 7th Street, Springfield, Illinois.
- The Sandberg Company, 767½ Sherman Avenue, Denver, Colorado.
- Achille Sorrentino, 2112-149th Street, Whitestone, New York.

CRAWLER

- Kuhnen, 513 West 54th Street, New York, New York.

CRUTCHES

- Adjustics, Incorporated (formerly, Dukin), 428 East 67th Street, New York, New York.
- C. D. Denison Orthopedic Appliance Corporation, 220 West 28th Street, Baltimore, Maryland (Tripod).
- Wing Folding Aids, Incorporated, 416 West Eighth Street, Los Angeles, California.

DRESSING TRAINING EQUIPMENT

- Holgate Brothers Company, Kane, Pennsylvania (Lacing Shoe; Braiding Toy; Long Tipped Lacers).
- Ideal Novelty and Toy Company, 200 Fifth Avenue, New York, New York (Ideal Dolls).

EDUCATIONAL MATERIAL AND EQUIPMENT

- Educational Playthings Division, American Crayon Company, Sandusky, Ohio.
- Coral Workboard Company, P. O. Box 254, Station A, Atlanta, Georgia (Arithmetic and Reading Formboard).

Milton Bradley Company, 75 Park Avenue, Springfield, Massachusetts.

- Evans Corporation, 825 West Washington Boulevard, Chicago, Illinois (Kiddies Plastic Safety Scissors).

Executone, Incorporated, 415 Lexington Avenue, New York 17, New York (School-to-Home, Two-Way Telephone Equipment).

General Textile Mills, 470 Seventh Avenue, New York, New York (Automatic Page Turner).

Halsam Products, Incorporated, 4114-4124 Ravenswood Avenue, Chicago, Illinois (Alphabet Blocks).

Ideal School Supply Company, 3812-46 Berkhoff Avenue, Chicago, Illinois.

Earl J. Jones, 727 North Western Avenue, Los Angeles 27, California (Selected Teaching Aids).

The Judy Company, 107 Third Avenue North, Minneapolis 1, Minnesota.

E. P. La Kaff, 2525 N. Hamlin Avenue, Chicago 47, Illinois (Cots).

Projected Books, Incorporated, 313 North First Street, Ann Arbor, Michigan.

Society for Visual Education, Incorporated, 1345 West Diversey Parkway, Chicago 14, Illinois.

Visual Specialties Company, 7645 East Jefferson Avenue, Detroit 14, Michigan (Feltboard and Felt Cut-Outs).

FEEDING TRAINING EQUIPMENT

Carl C. Caro, 3414 South Dixie Highway, West Palm Beach, Florida (Eatrite Fork and Spoon Set).

Creative Playthings, 867 Madison Avenue, New York, New York ("Water Play Apron" Overall).

Walter Drake, Box 721, Colorado Springs, Colorado (Hold-Tite Baby Dish).

W. A. Genesey, 828 South Los Angeles Street, Los Angeles, California (Baby Sandy Cup).

- Givens and Company, Clarendon Hills, Illinois (Dee's Scoop Eating Set).

Hold-a-Plate Company, Los Angeles, California.

Pet Milk Company, Department 54, Box 1245, St. Louis, Missouri, or 64 Pine Street, San Francisco, California (My Pet Cup).

Price Industries, 309 South Main Street, Akron, Ohio.

Swivel-Spoon, Room 503, 612 North Michigan Avenue, Chicago 11, Illinois.

Tupper Corporation, 225 Fifth Avenue, New York, New York (Flexible Plastic Glass).

Walbridge and Company, P. O. Box 351, Revenna, Ohio (Tipnot Plastic Dish).

PARALLEL BARS

Adjustics, Incorporated (formerly, Dukin), 428 East 67th Street, New York, New York.

C. D. Denison Orthopedic Appliance Corporation, 220 West 28th Street, Baltimore, Maryland.

- Overman Enterprises, 903 North 7th Street, Springfield, Illinois.

Achille Sorrentino, 2112-149th Street, Whitestone, New York.

PLUMBING FIXTURES (JUVENILE)

Eljer Company 500 Fifth Avenue, New York, New York.

Kohler Manufacturing Company, 220 West 19th Street, New York, New York.

Standard Plumbing Supply Company, 820 St. Anns Avenue, New York, New York.

- Toidy Company, Fort Wayne, Indiana (Juvenile Toilet Seats).

PUSH GLIDERS

Joseph J. Block, 1107 West Ainslie Avenue, Chicago, Illinois.

APPENDIX B: LIST OF COMMERCIAL FIRMS (Continued)

SKIS

- Acme, 2805 South Fairfax Avenue, Los Angeles 16, California (Reciprocal Skis).
- C. D. Denison Orthopedic Appliance Corporation, 220 West 28th Street, Baltimore, Maryland.
- E. P. Dillon, 1109 East 57th Street, Kansas City, Missouri.
- Kuhnlen, 513 West 54th Street, New York, New York (Reciprocal Skis).
- Overman Enterprises, 903 North 7th Street, Springfield, Illinois.
- The Sandberg Company, 767½ Sherman Street, Denver, Colorado.

SPEECH AND HEARING MATERIALS

- Audio Development Company, 2833 - 13th Avenue South, Minneapolis 7, Minnesota (A.D.C. Audiometer).
- Chromovox Division, Caledonia Electronics & Transformer Corp., Caledonia, New York.
- The Expression Company, Boston, Massachusetts (Speech Books and Materials).
- The King Company, 4609 North Clark Street, Chicago 40, Illinois (Reading Materials; Fer-Will Speech Cabinet).
- Maico Company, Incorporated, Maico Building, 25 North 3rd Street, Minneapolis 1, Minnesota (Audiometer).
- Peter Puppet Plaything, Incorporated, 10-15 - 46th Avenue, Long Island City 1, New York.
- Renwal, 902 Broadway, New York, New York (Plastic Doll Family).
- Scott, Foresman and Company, 433 East Erie St., Chicago, Illinois (Publishers of *Speech Improvement Cards*, by Bryngelson and Glaspey).
- Sonotone Corporation, Elmsdorf, New York.

STABILIZERS

- Adjustics, Incorporated (formerly, Dukin), 428 East 67th Street, New York, New York.
- C. D. Denison, Orthopedic Appliance Corporation, 220 West 28th Street, Baltimore, Maryland.

STEPS AND STAIRS

- Clare E. Cronkright, 926 Buhl Building, Detroit, Michigan.
- Overman Enterprises, 903 North 7th Street, Springfield, Illinois.
- Potomac Engineering Corporation, 664 North Michigan Avenue, Chicago, Illinois.

STRAWS

- Art Button Novelty Manufacturing Company, 12 East 22nd Street, New York, New York (Plastic Sippers with Mouthpiece—distributed through retail stores).
- BAT Industrial Manufacturing Company, 477 Washington Street, New York 13, New York (Aeroflex II Plastic Drinking Tube).
- Excel Confectionary Corporation, Orange, New Jersey (Stick Candy Straws).
- Flex-Straw Corporation, 4300 Euclid Avenue, Cleveland, Ohio.
- Stone Straw Corporation, 900-922 Franklin Street, N.E., Washington 17, D. C. (Thirst-Aid Bentubes).
- Topic Toys, 174 West Jackson, Chicago, Illinois (Merry-Go-Sip).

TOYS AND PLAY EQUIPMENT

- Educational Playthings Division, American Crayon Company, Sandusky, Ohio.
- Blockcraft, Incorporated, Grand Rapids, Michigan.
- Paul Bonhop, Incorporated, 4132 Park Avenue, New York, New York.
- Milton Bradley Company, 75 Park Avenue, Springfield, Massachusetts.
- Child Life and Play Specialty Association, Holliston, Massachusetts.
- Child Training Association, Incorporated, Department A, 1018 South Wabash Avenue, Chicago, Illinois.
- Childhood Interests, Incorporated, Roselle Park, New Jersey.

- Childcraft Equipment Company, 634 Columbus Avenue, New York, New York.
- Creative Playthings, 867 Madison Avenue, New York 21, New York; or 7730 Forsythe Boulevard, and 333 North Euclid Avenue, St. Louis, Missouri.
- Educational Equipment Company, Incorporated, 69 West 23rd Street, New York, New York.
- Saul Gabriel Sons and Company, 200 Fifth Avenue, New York, New York.
- Game Time Blocks, Litchfield, Michigan.
- Holgate Brothers Company, Kane, Pennsylvania.
- Workshop of Dianne Johns, 1146 North Tamarind Avenue, Hollywood 38, California (Woodcraft for Elementary Schools).
- The Judy Company, 107 Third Avenue North, Minneapolis 1, Minnesota.
- Nory Toy Company, 160 North La Salle Street, Chicago, Illinois.
- Playskool Manufacturing Company, 1750 North Lawndale Avenue, Chicago, Illinois.
- Potomac Engineering Corporation, 664 North Michigan Avenue, Chicago, Illinois.
- The Sandberg Company, 767½ Sherman Street, Denver, Colorado.
- Seaver Toy Company, 3050 North Lima, Burbank, California.
- Sifo Educational Toys, 353 Rosabe Street, St. Paul 1, Minnesota.
- Strombeck-Becker Manufacturing Company, 51st Street and 4th Avenue, Moline, Illinois.
- Toyecraft Corporation, Chicago 7, Illinois (Magnetic Touch-It Train).

TRICYCLES AND ATTACHMENTS

- Auto Wheel Coaster Company, Tonawanda, New York.
- Colson Tricycle Company, Elyria, Ohio.
- C. D. Denison Orthopedic Appliance Corporation, 220 West 28th Street, Baltimore, Maryland.
- E. P. Dillon, 1109 East 57th Street, Kansas City, Missouri.
- G. & L. Thread Rolling and Manufacturing Company, 531 South Water Street, Milwaukee, Wisconsin (Four-Wheel Kar-Bike).
- The Hedstrom Union, Fitchsburg, Massachusetts.
- Mead Cycle Company, 4520 West Madison Street, Chicago, Illinois.
- Modern Metal Specialties Company, 2935 West Greenfield Avenue, Milwaukee, Wisconsin (Ortho-Cycle).
- Overman Enterprises, 903 North 7th Street, Springfield, Illinois.
- Worksman Cycle Company, 446 Adelphi Street, Brooklyn 17, New York.

TWISTERS

- Aloe Keith Company, St. Louis, Missouri.
- Lende-Brown Orthopedic Company, 224 North 7th Street, St. Louis, Missouri.

TYPEWRITERS

- International Business Machines, 590 Madison Avenue, New York 22, New York (Electric Typewriter).
- Remington Rand, 315 Fourth Avenue, New York 10, New York (Electric Typewriter).
- Type-Writing Institute for the Handicapped, 208 West 23rd Street, New York 11, New York (One-Hand Typewriter with Dvorak Key-Board).
- John Underwood and Company, 503 Fifth Avenue, New York, New York (Standard Typewriter with Bulletin-Size Type).

WALKERS

- American Sterilizer Company, Erie, Pennsylvania.
- Eaglesfield Manufacturing Company, P. O. Box 5352, 42nd Street Station, Indianapolis 5, Indiana.
- Overman Enterprises, 903 North 7th Street, Springfield, Illinois.
- The Sandberg Company, 767½ Sherman, Denver, Colorado.

APPENDIX C: SUBJECT INDEX

The contents of this manual are listed below alphabetically under the functional categories in which they may occur. This subject index is not intended for use as a check list of equipment and aids that should be acquired for a particular therapeutic program. The selection, acquisition and use of equipment should be determined for the individual case upon the evaluation and recommendations made by the medical and professional team.

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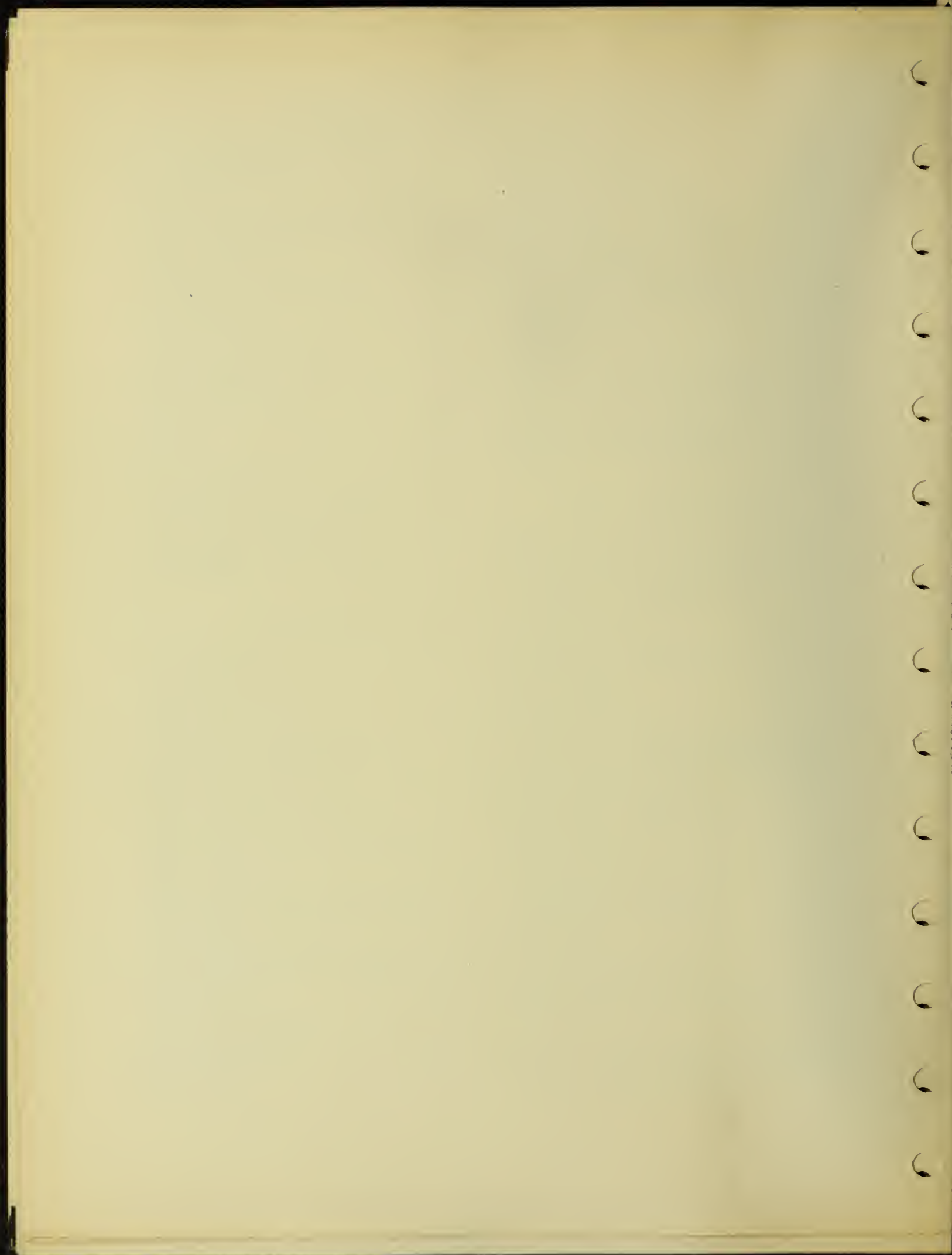
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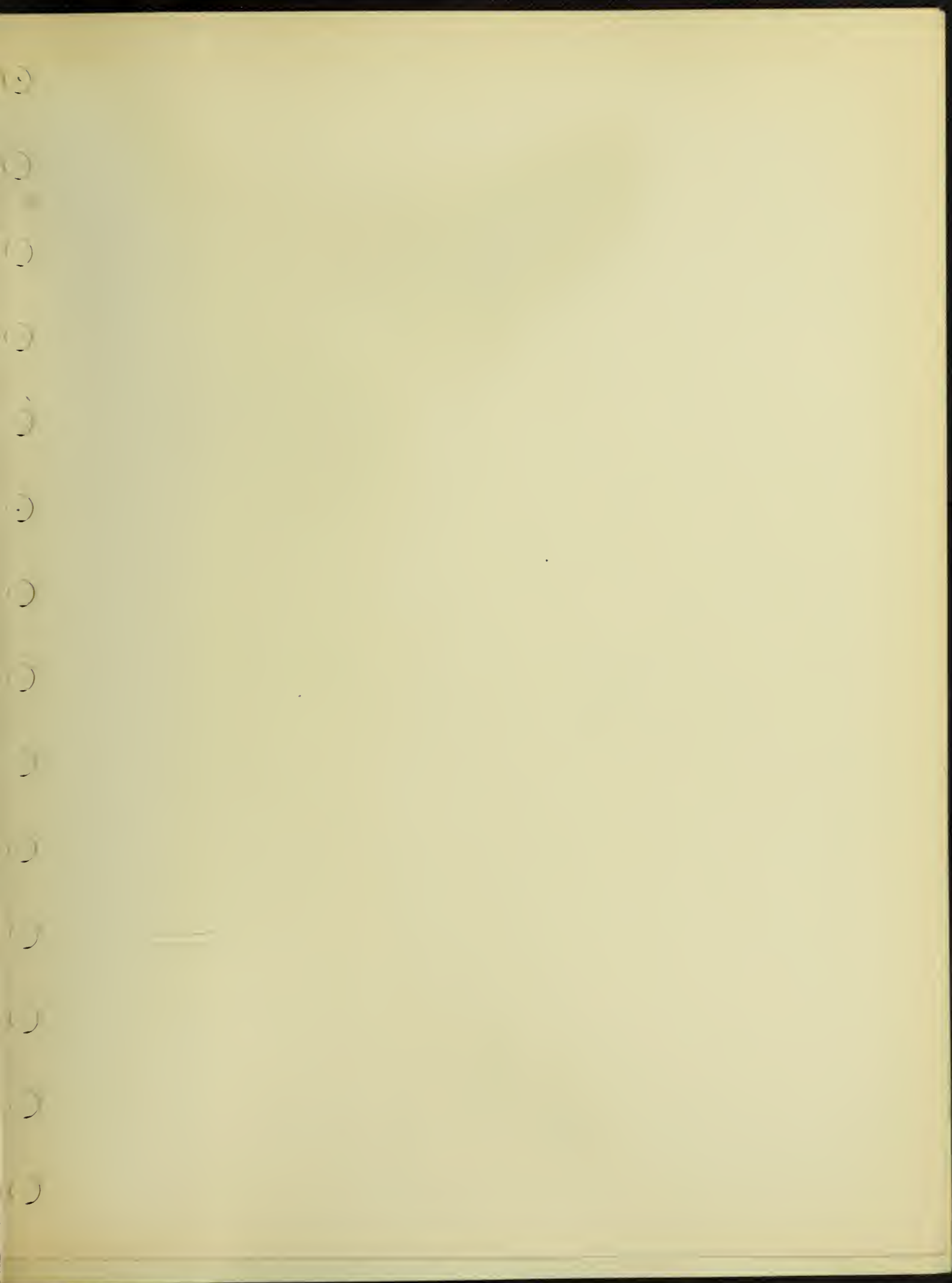
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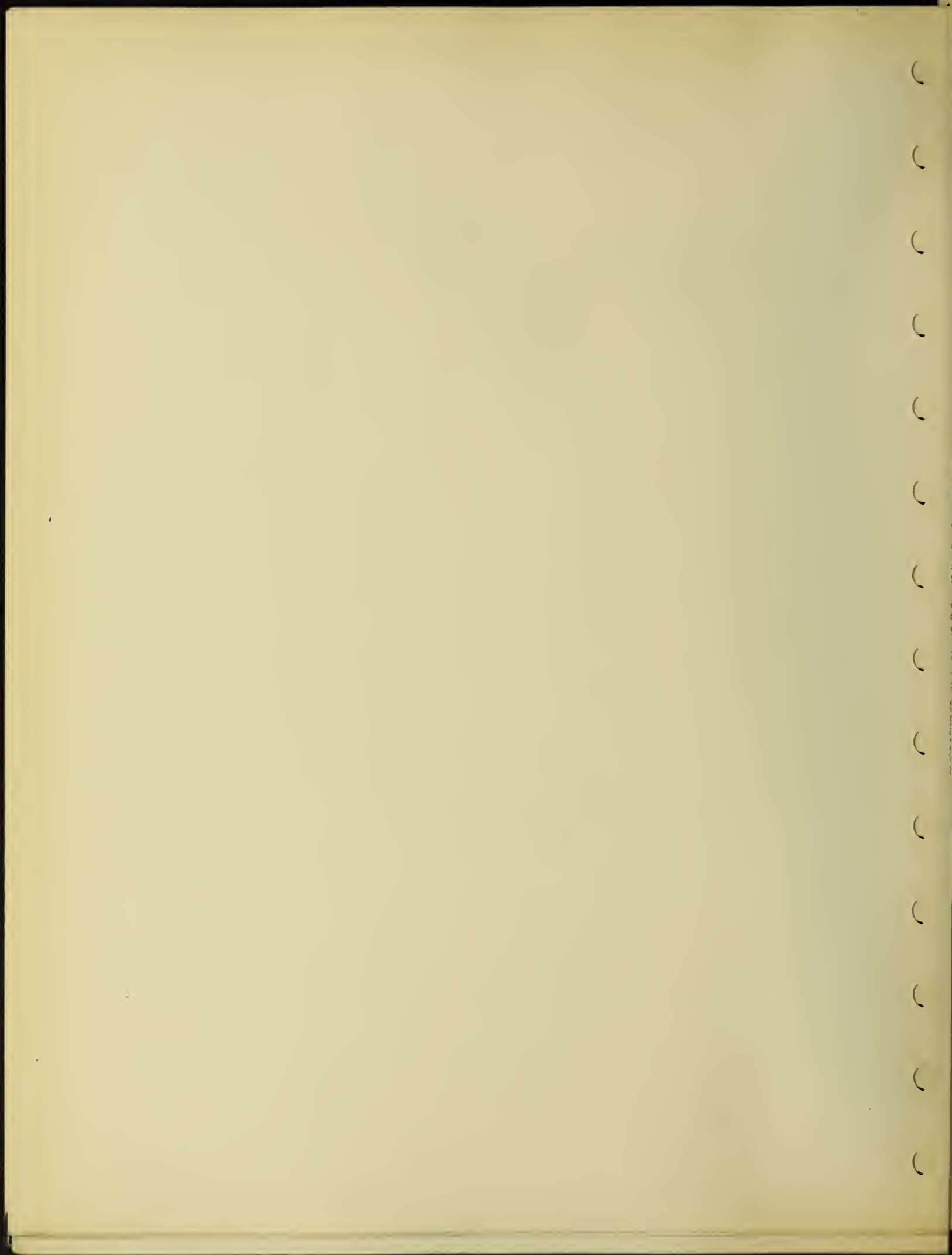
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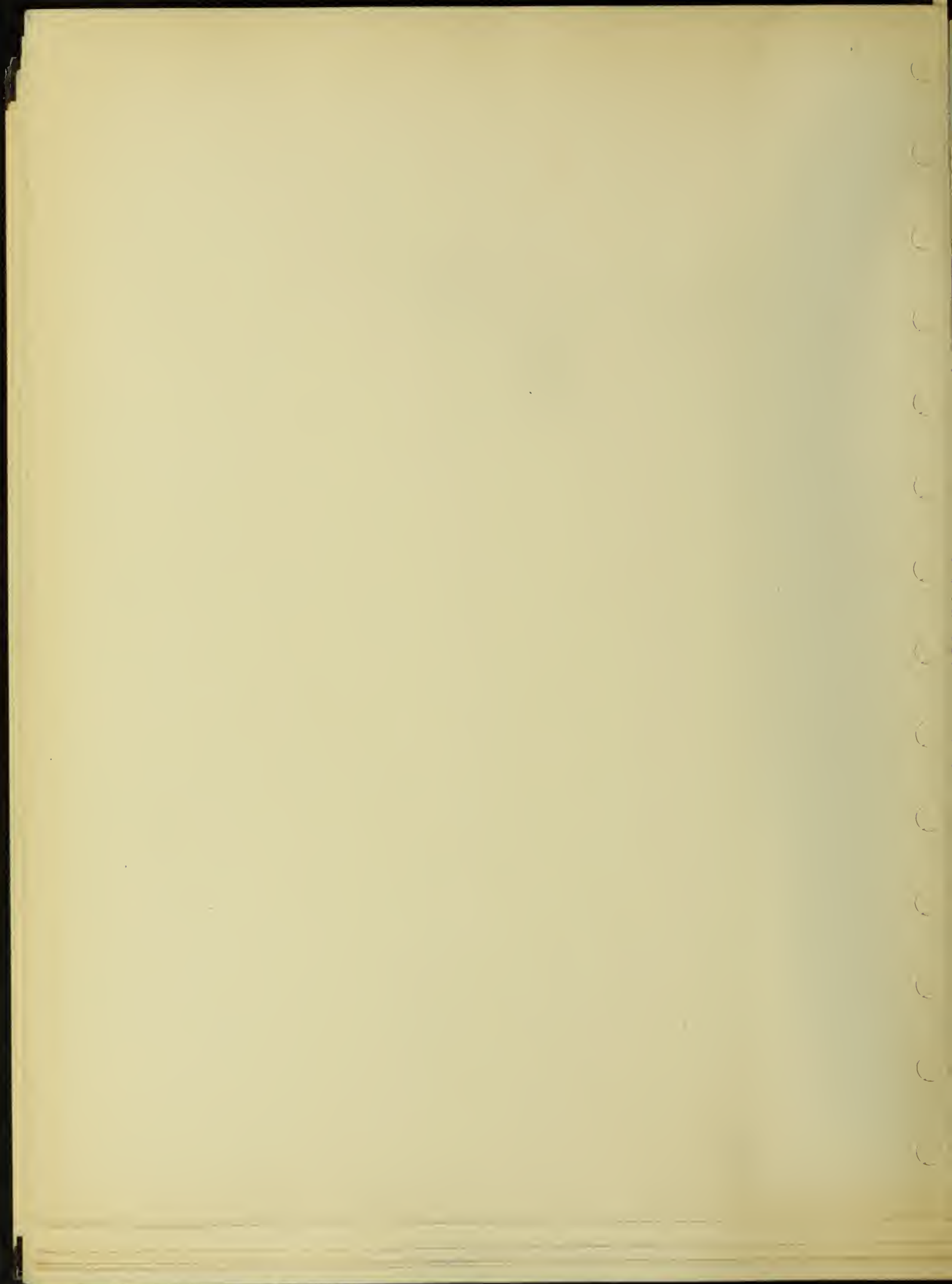
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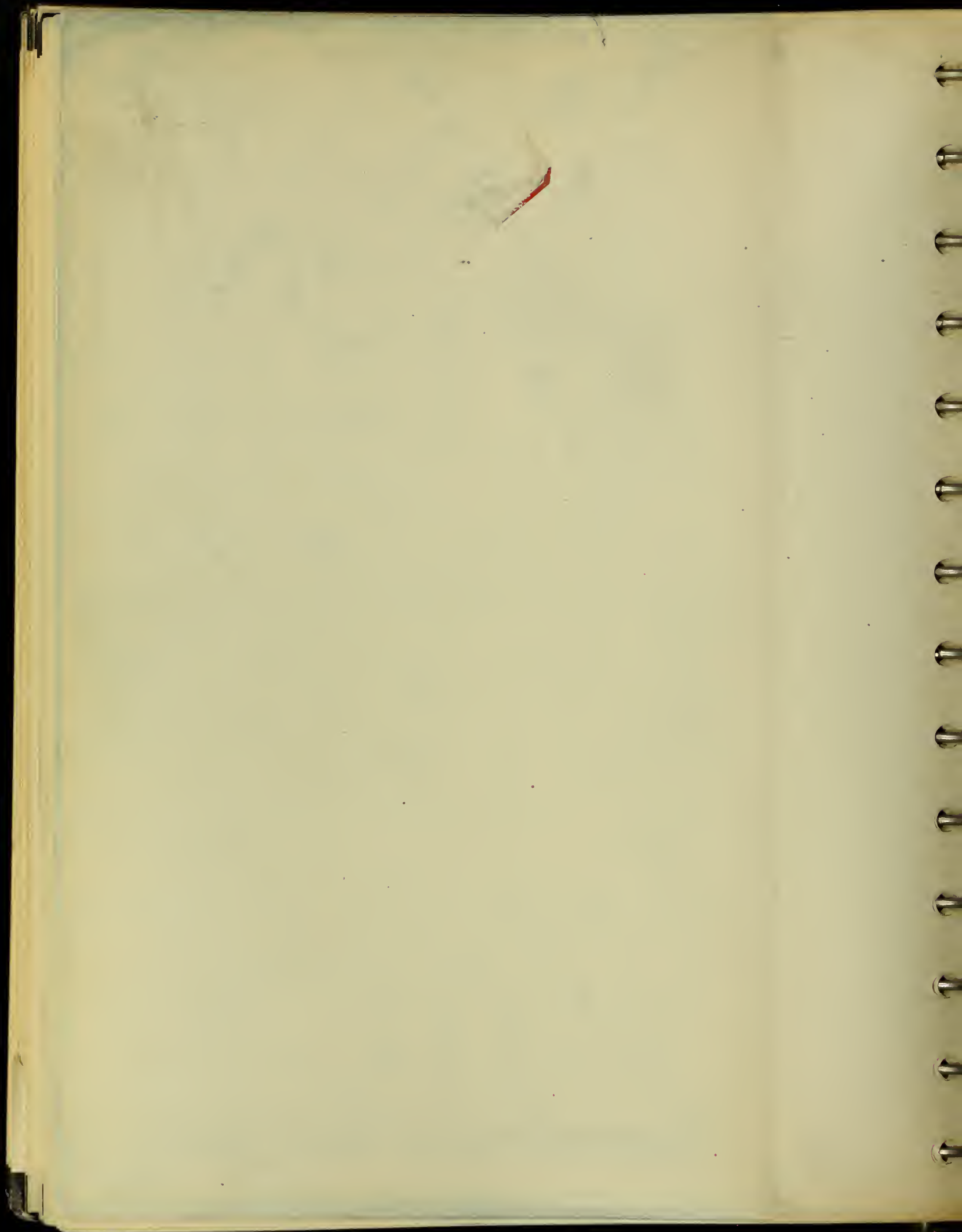




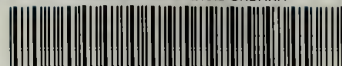








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